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India

Review of defragmentation of publicly subsidized health insurance schemes

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Abbreviations

AAA	Atal Amrit Abhiyan
AAAS	Atal Amrit Abhiyan Society
AAN	Assam Aarogya Nidhi
AB-PMJAY	Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana
AG-MGRSBY	Ayushman Bharat – Mahatma Gandhi Rajasthan Swasthya Bima Yojana
APL	above poverty line
BPL	below poverty line
BSBY	Bhamashah Swasthya Bima Yojana
CBG	case-based groups
CEO	chief executive officer
CGHS	Central Government Health Scheme
CHD	congenital heart disease
CHIAK	comprehensive health insurance agency
CMCHPS	Chief Minister Child Heart Protection Scheme
CMCIS	Chief Minister Cochlear Implant Scheme
DKBSSY	Dr Khoobchand Baghel Swasthya Sahayta Yojana
ESIS	Employee State Insurance Scheme
GHIS	general health insurance scheme
ISA	implementation support agency
JKN	Jaminan Kesehatan Nasional
KBF	Karuna Benevolent Fund
KII	key informant interviews
KASP-PMJAY	Karunya Arogya Suraksha Padhathu – Pradhan Mantri Jan Arogya Yojana
LIC	low-income country
LMIC	low- and middle-income country
MMCSBY	Mukhyamantri Chiranjeevi Swasthya Bima Yojana
MNDY	Mukhyamantri Nishulk Dava Yojana
MNJY	Mukhyamantri Nishulk Jaanch Yojana
MSBY	Mukhyamantri Swasthya Bima Yojana
MVSSY	Mukhyamantri Vishesh Swasthya Sahayta Yojana
NFSA	National Food Security Act
NHA	National Health Authority
NHI	National Health Insurance

NHM	National Health Mission
OECD	Organization for Economic Co-operation and Development
OOP	out-of-pocket
PSHI	publicly subsidized health insurance
RBSK	Rashtriya Bal Swasthya Karyakram
RGHS	Rajasthan Government Health Service
RSBY	Rashtriya Swasthya Bima Yojana
RSBY-CHIS	Rashtriya Swasthya Bima Yojana – Comprehensive Health Insurance Scheme
RSHAA	Rajasthan State Health Assurance Agency
SECC	socio-economic caste census
SHA	State Health Authority
SSK	Sanjeevani Sahayta Kosh
TMS	transaction management system
UHC	universal health coverage
WHO	World Health Organization

Background

Several countries have embarked on health insurance reforms as one of the vehicles for achieving universal health coverage (UHC). India is one such country with a long-documented history of implementing tax funded or publicly subsidized health insurance reforms to this end. One of the challenges countries with such a long history have encountered is the fragmentation of the health financing landscape consequent to the proliferation of many different insurance schemes, especially at the sub-national level. Such fragmentation has resulted in inequity in access and financial protection(1, 2). Owing to this, many countries may consider embarking on reforms to defragment these multiple schemes. This body of work was conceived and executed to provide a conceptual framework that can guide the approach to defragmentation of these schemes. To that end, two reports were prepared to provide countries and sub-national governments with insight into available evidence and guidance on their defragmentation efforts. The reports included:

1. A review of defragmentation efforts among various countries and four states in India with their unique reform trajectories and predisposing, enabling factors and barriers to reform *(Part 1)* and framing of a conceptual model and typology for defragmentation efforts within publicly subsidized health insurance (PSHI) schemes *(Part 2)* (these two terms are used interchangeably across the reports).
2. A guidebook for other LMICs, LICs and sub-national governments looking to undertake defragmentation efforts based on the experiences and evidence synthesized from the first two reports.

The current report is the first in this series and presents a literature review for six countries (South Korea, Turkey, Indonesia, Thailand, China, and Moldova) to develop the conceptual framework illustrated in the second part of this report. Further in-depth interviews were conducted, and secondary data was collected for four states in India (Kerala, Chhattisgarh, Rajasthan, and Assam) to obtain a more detailed description of the spectrum of defragmentation measures within each dimension of fragmentation. These inputs were together used to inform the suggested framework. The framework has been prepared in the context of PSHI schemes. Thus, it is important to remember that fragmentation exists beyond such schemes and could relate to vertical disease programs, specialty services, etc., all of which is beyond the current scope of review and analysis.

Key insights and findings from this report highlight the dynamic and complex nature of processes and reforms along different areas of fragmentation, which are categorized into three major dimensions of fragmentation. This along a spectrum of fragmentation ranging from:

1. Complete defragmentation (usually where most efforts stem from)
2. Harmonization across pools (partial functional alignment without streamlining of administrative, institutional or governance mechanisms),
3. Pool merging. This may be at an administrative and/or functional level depending on the extent of merging undertaken, though is characterized by a unified governance and oversight mechanism

An important disclaimer at this point relates to the context in which the term **'pool'** is used within this document. Though pool alludes to the beneficiary grouping based on risks and/or other demographic or socioeconomic characteristics, for the purpose of this document, pool also relates to associated purchasing functions within and across these pools. Thus, pool merging could also imply standardization of purchasing functions without necessarily merging the beneficiary groups (later referred to as administrative defragmentation).

The Indian experience indicated relatively early days for the defragmentation landscape of health financing schemes and much remains to be done with regard to broader reforms around defragmentation. However, distilling of predisposing factors, enablers and barriers to such efforts present an important insight into some of the common factors influencing efforts around defragmentation. This has informed some of the suggestions offered in the guidebook (second report) and helped formulate the conceptual framework for defragmentation illustrated in part two of the current report.

Key findings

Predisposing factors varied to some extent based on the category of reform:
For Indian states that had reformed their fully-tax funded insurance schemes, the following factors emerged as some of the key predisposing factors:

- Duplication of eligibility and overlapping benefits across coverage mechanisms
- Small and underutilized government funding pools
- Administrative challenges associated with varying and sometimes inefficient healthcare purchasing mechanisms across schemes
- Inequity in financial contributions and access across population sub-groups
- Unstable risk pools
- Large uninsured population sub-groups
- High OOP costs and political will for large health financing reforms formed the main factors that led to defragmentation reforms

Enablers to early-stage defragmentation reforms included:

- Common leadership across administrating organizations
- Reliable population data for means-testing
- Financial and technical support from a national scheme with structures for strategic purchasing (relevant in decentralized settings)
- Sustained political will from across ministries with the necessary commitment to financial investments

Countries with more far-reaching defragmentation and expansion reforms were benefitted from many of these and additional factors such as economic growth and stability for larger scale expansions of coverage (although not a predisposing factor), strong 'technocrats' and transformation teams, and continued population awareness campaigns, which played a key role in successful transitions. However, it is important to also note that while economic growth is a strong enabler, countries such as Thailand universalized their schemes in the aftermath of the Asian Financial Crisis of 1997, thereby prioritizing efforts to ensure financial protection of their population.

Barriers to defragmentation included:

- Popular support for existing schemes and resistance to change from certain groups with the larger benefits
- Fears of higher contribution rates post-defragmentation
- Lack of technical and institutional capacity for streamlining varying functional processes across different schemes
- Lack of requisite digital data systems across schemes for defragmentation

Data limitations constrained the empirical assessment of the effectiveness of these reforms, however, an outline of some benefits and challenges that countries and states in India have experienced have been captured in the final framework relating to areas of political economy, institutional capacity and the role of information technology systems in facilitating defragmentation. The guidebook will serve as a foundation for further work to determine the associations between the typology of defragmentation reforms developed health financing and system goals, in different settings.

Part 1

Review of defragmentation efforts in India and beyond

Background

What is defragmentation?

In its simplest form, fragmentation refers to the presence of multiple financing pools, each with its own set of beneficiaries, benefits, processes and providers (3); limiting the ability to cross-subsidize income and risk across the coverage mechanisms (4). However, the presence of multiple financing pools does not necessarily pose a challenge if risk adjusted and thus, fragmentation, in addition to multiple pools, is also characterized by limited re-distributive capacity of resources from one pool to another (WHO). From a health systems lens, Bossert et al. building on the work of others, explain that "a perfectly unified health financing system would occur where an entire population constitutes a single risk pool covered by the same comprehensive package of health services, funded through a single revenue-collecting mechanism that pays a unitary organization of providers in a uniform way. Perfect fragmentation would be where each individual in a country pays entirely OOP to receive individually variable health services from non-coordinated, individual providers, with risk-pooling only at the household level."(5)

For the purpose of this body of work, we approach the concept of 'defragmentation' as reforms that are targeted towards reducing fragmentation as defined by these authors; that is, reduction in the number of coverage mechanisms, or expansion of coverage mechanisms in order to reduce the probability of individuals receiving care through non-coordinated providers, paid out-of-pocket (OOP).

Additionally, based on health financing policy objectives defined by WHO, defragmentation reforms should also work towards ensuring redistributive capacity, equity in access and financial protection as key intermediate outcomes of the reform undertaken (6). More importantly, the above objectives should not be undermined by defragmentation reforms and should serve as the guiding path in informing policy changes to be undertaken.

Global review: Predisposing factors and effects of defragmentation of public health insurance systems

As part of the global review, countries were purposefully selected to reflect a diverse range of experience and learnings. Countries consisted of a mix of middle-income (Turkey, Indonesia, Thailand, China, and Moldova) and high-income (South Korea) countries. The selected countries also represent those best known for their reforms in this area, and for which relevant literature is available. Data sources included document reviews, including published reports and peer-reviewed articles. Based on a review of available evidence this section highlights some of the more common predisposing factors for defragmentation reforms as well as some key enablers and barriers.

Predisposing factors can be understood as the motivations for countries deciding to undertake such reforms. While different countries had their own context-specific factors, recurring themes that prompted such reforms have been found in the evidence listed in the box below. These were mostly nested within the shortcomings of health system performance within countries and included:

Box 1: Common predisposing factors to integrating schemes in countries reviewed

- Financial inequity across population groups
- Instability of existing financial pools
- Inequity in access to setvices
- High OOP expenditures
- Inefficiencies in tie health system
- Limited access to quality health services
- Potential for attaining universal coverage through consolidation and expansion of schemes

Defragmentation reforms that largely involve rationalization of multiple PSHI schemes into fewer risk pools provide evidence of positive advances towards UHC objectives and health system efficiency. Some of these effects are described below:

Addressing population coverage gaps and overlaps in coverage through geographical integration of eligible population: Pilot initiatives by local governments in China in defragmenting coverage of urban and rural residents under a single scheme (previously covered under separate social health insurance (SHI) schemes and resulting in several overlaps due to rapid rural-urban migration and occupational mobility) have shown that identification barriers to coverage have been removed, improving overall efficiency (7).

Unifying the administrative structure and reducing resultant costs: Despite achieving universal coverage of the population in 1989, South Korea defragmented its multiple quasi-public insurance funds into a single National Health Insurance (NHI) in 2000. The merger had a positive impact in reducing the administrative costs previously utilized to maintain separate funds and the share of these costs in total health expenditure, thus boosting the efficiency of the state health insurance system (8). The administrative costs for two schemes, one covering government and school employees, and the other covering the self-employed were 4.8% and 9.5% respectively before the merger and these declined to 4% for the NHI (9). Savings accrued through the reduction of administrative costs facilitated more fiscal space and provided scope

for the expansion of benefits (8).

Integration of data information systems for greater accuracy and reduction of duplication errors: Turkey reduced fragmentation by merging five existing schemes into a single General Health Insurance Scheme (GHIS). The lack of uniform information systems across the earlier schemes caused high discrepancies in the actual population coverage of each scheme and overall coverage rates. There also remained the possibility of overlap of the population coverage, while some remained uninsured (9). After the merger, a single information bank was created, thus removing duplications, and bringing about greater accuracy of statistics.
In Indonesia, the single universal program National Health Insurance Program (Jaminan Kesehatan Nasional, JKN) was created in 2011 with the merger of five health insurance schemes. After the defragmentation, a unique social security number is being used to maintain uniformity and avoid duplication of benefits (10). This will also simplify the transfer of benefits with changes in occupation or region of the insurers.

Improving equity of financial contributions and utilization: In South Korea, there were discrepancies in the method of calculating the contribution amounts among various funds. This caused concerns about vertical and horizontal inequity in contributions. Enrollees in schemes for the poor or rural regions had to pay higher proportions of their income as premium, than their urban or wealthier counterparts. In other cases, people with similar incomes were likely to pay different amounts as premiums, to get the same benefits package. For example, the self-employed paid the same rate of contribution across the country prior to the merger. After defragmentation, some concessions were made for the under-privileged based on their ability to pay. This significantly improved financial equity among the self-employed, with 62% of the households paying lower contributions than the ones paid before the merger. A rise in the contribution of the residents of the richest county (36.3% increase in average rate) was also recorded, depicting that those with a higher ability to pay, actually made higher contributions in the integrated scheme (8, 9).

Merging of the schemes in Turkey has been found to improve equity significantly in terms of health financing and health care utilization. There was a considerable reduction in OOP expenditure reported, especially among the poor, after three years of implementation of GHIS. Turkey experienced the highest reduction among OECD countries between 2000 and 2012, indicating improved financial protection after the merger. The almost complete population coverage of GHIS with the richer individuals contributing more than the poor has led to higher financial equity (9).

Improvements in hospitalization rates were observed in China among middle-aged and rural residents as a consequence of the merging of rural and urban schemes, with a significantly observable impact seen in poor areas (11). However, equity of financial contributions in China appears elusive post-recent integration reforms. There are mixed responses to integration efforts with a significant level of dissatisfaction among stakeholders involved in the implementation of the scheme, primarily associated with poor management systems, lack of improvement in equity of financial contributions, and perceived coverage expansion (7).

For several countries, these reforms are largely works in progress: The specific features of defragmentation reforms must account for pre-existing coverage mechanisms available to the population and the capacities of institutions to undertake and successfully implement these reforms. Bazyar et al. in their recent review of similar reforms in health insurance schemes note that political commitment to defragmentation and the financial outlays necessary to support the process are important determinants of the success of such reforms (9). Each of these countries has varying financial capacities and are in different stages of health system development. However, they provide an important source of evidence of the potential and limitations of such reforms.

The table below summarizes some of the positive impacts that defragmentation can have on some of the intermediate and final health system goals, which is nested in currently available evidence on this topic.

	South Korea	Turkey	Thailand	Indonesia	China	Moldova
Equity of access/utilization	√	√	√	√	√	√
Equity in contributions	√		√	√		
Financial protection	√	√	√	√	√	√
Efficiency	√	√	√			

√ indicates some evidence of positive effects of integration in the country (this may be for a select population group or region within the country. This table is not indicative of an exhaustive review of the literature).

Table 1. Positive effects of integration of health insurance schemes

However, the different ways in which this has been achieved, or can be achieved, needs to be reviewed in different settings. Many countries have undertaken reforms to defragment their health insurance systems, expand them and reduce fragmentation in the health system. Such systematically reviewed knowledge can further develop a conceptual understanding of how countries can approach reforms targeted at reducing fragmentation. This knowledge would serve to provide practical assistance to those countries aiming to embark on a similar path.

Global review: Enablers and barriers for defragmentation reforms

With regard to enablers and barriers, the review showed the significant role of political economy considerations in helping and/or hindering defragmentation reforms. Given the centrality of political economy as an influencing factor, the reviewed findings from the global case studies were categorized in an adapted version of the Campos and Reich framework for health financing reforms (12, 13). While we did not find specific evidence of interest group politics and external actor politics in the published literature, we cannot rule out the role of these factors as they may have not been documented in reform descriptions.

Stakeholder groups*	Enablers	Barriers
Bureaucratic politics		• Resistance to relinquishing control
Budget politics	• Economic growth and stability	• Financial sustainability • Complex intergovernmental financing mechanisms
Leadership politics	• Political will • Supporting legislation	
Beneficiary politics	• Increased awareness	• Resistance from groups with larger benefits • Apprehension about increasing contributions
Other factors	• Dedicated transformation team consisting of experts with technical know-how and 'champions'	• Technical streamlining of benefit design and contributions

**Stakeholder group categories as proposed by Campos and Reich, & Sparkes et al 2019(12, 13).*

Table 2. Enablers and barriers to integration

Finally, despite success of many of these defragmentation reforms across the various countries, persisting challenges remain in fully operationalizing the intended defragmentation reforms. These ranged from factors external to the health system such as geographical access in Turkey to continued resistance from interest groups in Thailand, to more internal health system factors. These internal factors constitute issues of inequity in revenue generation in South Korea, public financial management bottlenecks and issues of financial sustainability of reforms in Indonesia, lack of clarity vis-à-vis delegation of powers in China and continued systems inequity in Moldova. These challenges and other such persistent issues faced are highlighted in Box 2 below:

Box 2: Persisting challenges associated with integration in the countries reviewed

- Lack of adequate data to determine health system efficiency
- Persisting disparities across districts and regions in access to care
- Persisting inequalities in access to care for some population groups
- High OOP expenses for healthcare
- Determination of contributions for salaried as well as self-employed people (South Korea)
- Harmonization of the three schemes due to opposition from contributing groups (Thailand)
- Lack of clarity on administrative and managerial agency in charge of integrated scheme (China)

The persistence of these challenges in various contexts highlights the fact that defragmentation of financing pools is necessary but by no means sufficient to address UHC objectives and goals. This implies, therefore, that these reforms must ideally be implemented as part of a strategic process of ends-driven reform in which other complementary measures are implemented.

Synthesis of defragmentation reforms in PSHI schemes in India

India has used health insurance reform as one of the vehicles to respond to the challenge of increasing financial hardship attributed to health expenses and to expand service availability and access, especially for the most vulnerable sections of society. These efforts commenced with the Rashtriya Swasthya Bima Yojana (RSBY) reform that provided publicly subsidized health insurance for poor and vulnerable families up to INR 30 000 (~360 USD) for households of up to five individuals on a floater basis though similar state schemes (Andhra Pradesh, Karnataka), were already underway. Following the launch of RSBY, several states also launched their own schemes (in addition to the co-financed RSBY) with varying benefit packages, beneficiary eligibility criteria, payment rates and institutional structures and processes. In 2018, RSBY was replaced by Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB–PMJAY, henceforth referred to as PMJAY) which is the largest health assurance scheme in the world that aims at providing a health cover of INR 500 000 (~6080 USD)[1] per family per year, for secondary and tertiary care hospitalization to over 107.4 million poor and vulnerable families (approximately 500 million beneficiaries) that form the bottom 40% of the Indian population.

Similar to RSBY, PMJAY is implemented by the Centre and states through co-financing, with variations at the state level. One of the areas of variation includes the degree to which PMJAY is merged with pre-existing pools of funds in the states. At the Union level, the government has initiated reforms geared towards defragmenting health insurance schemes including the Employee Social Insurance Scheme (ESIS) and the Central Government Health Insurance Scheme (CGHS). However, these are at a nascent stage (digital integration of CGHS with the PMJAY IT platform, and the extension of PMJAY benefits and empaneled hospitals to ESIS beneficiaries are some of the main steps taken. Some of these reforms are at a pilot stage (14). States, on the other hand, have embarked on more concrete steps to defragment the purchasing functions of health insurance schemes, as well as rationalize other financial protection schemes with similar benefits. Not all schemes are typically insurance schemes, and some fall within the scope of 'assurance' schemes, or those for which there is automatic eligibility, as opposed to targeted enrolment for specific population groups.

The WHO Country Office for India has supported various reforms and aspects of these reforms in three states, that is, Assam, Chhattisgarh, and Kerala. In all these instances, the methodology and approach to assessment were developed by the team, as no global guidance exists to guide the process, measure the outcomes that should be realized, or describe the potential influences in such processes. Moreover, a detailed taxonomy delineating the varying characteristics of such pooling reforms also needed to be developed as countries and states may choose to 'harmonize' at functional, administrative, or program levels or move towards full or partial pool merging of schemes along a spectrum of rationalization.

As many states in India and other countries are moving towards rationalising their health financing schemes, there is a need to document the processes undertaken along with the factors that influenced the processes, and the outcomes of the process to cull lessons that other countries can learn from. Ultimately, a framework that can guide such processes, the

[a] *1 USD = INR 82.2092 (IMF exchange rate calculation for December, 9 2022).*

predisposing factors, and elements to be considered, highlighting the enablers and barriers in the process, will be advantageous when developed. This could guide other countries in the early stage of defragmentation reforms, in the conduct of similar processes.

Approach and methodology

This section presents the methodological approach and findings for the defragmentation reform experiences of the four states studied in India. We also elucidate the key defragmentation processes, motivators, enablers, and barriers in these states. Details of the pre and post defragmentation reforms along specific domain areas of fragmentation are provided in Annexure I.

Analytical framework for defragmentation reforms

To guide the primary assessment in India, countries that have undergone defragmentation reforms were initially reviewed, details of which are provided in the sections above. First, details were extracted on the schemes for each country and extent of fragmentation was assessed before and after defragmentation reforms, along the different dimensions of the schemes, using an adapted version of the six dimensions of fragmentation presented by Bossert et al (5). These are Organizations, Risk pooling, Eligibility, Benefits, Premiums, Provider payments; we added the dimensions of Provider empanelment and Claim management Annexure II. From this, we identified how reforms were targeted at various dimensions of fragmentation and attempted to sequence these processes for each country. The predisposing factors, enablers, and barriers in defragmentation were also delineated as shown above. Observed defragmentation reforms were categorized based on the patterns observed in the approach of countries to defragmentation reforms along various dimensions.

Methodology

Scope of the review

The review of the state experiences was limited to publicly funded health insurance schemes. It is noteworthy that the ideal state is a system-wide perspective that would include other financing schemes that are not public (for example, voluntary health insurance) or funding arrangements such as general budget revenue and other pools as the unit of analysis. However, this focus is on PSHI schemes for the following reasons:

a) The nature of defragmentation as a reform process is inherently political and charged with political economy constraints such as stakeholder group interests. In light of this, the feasibility of reform is a key factor. Given that empirical evidence has shown some precedence of implementing reforms for PSHI schemes as opposed to reforms that merge all types of financing arrangements at once, it seems a reasonable starting point to assess these reforms.

b) The proliferation of PSHI schemes at the state level in India was a source of fragmentation of the health financing landscape, that at a policy level has emerged as a key factor for addressing efficiency and equity concerns. There is a need to provide guidance on policy measures on the broader defragmentation agenda.

Selection of states

The four states included in the study were purposively selected among those in which health insurance reforms have been undertaken. In some cases, preliminary work on health insurance reforms had been conducted earlier by the WHO Country Office for India. The states studied include Kerala, Chhattisgarh, Rajasthan, and Assam *(Table 3.):*

States	Location	Geographical area (km^2)	Number of households in state[a]	Per capita net state domestic product (2019-2020) in INR[b]	Health system performance[c] (2019-2020)
Kerala	**Southern**	**38,863**	**8,706,546**	**213,041**	**82.20**
Chhattisgarh	**Central**	**135,190**	**6,442,062**	**105,089**	**50.70**
Rajasthan	**North-western**	**342,239**	**18,070,963**	**115,356**	**41.33**
Assam	**North-eastern**	**78,438**	**6,427,614**	**90,123**	**47.74**

[a] All data on number of households in states are as per the PMJAY website (https://pmjay.gov.in/states/states-glance updated on March 2022): Kerala (Civil Supplies Department)(15), Chhattisgarh (Food, Civil Supplies and Consumer Protection Department for 2020)(16), Rajasthan (Census 2011)(17) and Assam (SECC 2011)(18).
[b] Reserve Bank of India publication: Handbook of Statistics on Indian States 2021-22(19)
[c] The Health Index framework is an initiative developed by the NITI Ayog and Ministry of Health and Family Welfare for monitoring of performance and improvements in health outcomes in states in India. It presents a composite score incorporating 23 indicators covering key aspects of health sector performance. A higher score indicates a better performing health system and scores are out of a total of 100 (20).

Table 3. Overview of States selected for review

Study design

A case study approach was undertaken, combining the collection and analysis of qualitative primary data, with some quantitative data, where secondary data were available.

Data sources

Qualitative data sources

- Key informant interviews (KIIs)
  Key informant interviews were conducted with relevant health system leaders in each state to elucidate the predisposing factors to the reforms, steps in the reform process, enablers, barriers, and expected outcomes **(Annexure III).** Persons responsible for key purchasing functions and scheme oversight were interviewed to understand the details of each of the dimensions of fragmentation **(Annexure IV).** Where institutional arrangements had changed significantly, leaders from other vertical health departments responsible for the earlier schemes were also interviewed. Semi-structured interview guides were developed and used for each stakeholder group **(Annexures V, VI)**.

- Document review
  Available documentation on the health insurance schemes in each state were sourced and reviewed, to describe the core design features of schemes, and dimensions of fragmentation and to document the process and supporting arrangements for defragmentation. These included scheme guideline documents, minutes of meetings, and government orders, where available.

Quantitative data sources

Available secondary data were used, where applicable, in order to assess the outcomes of defragmentation. Data on relevant indicators for beneficiary identification, scheme utilization, provider empanelment and claim management were sought from the states. Data was collected in aggregate form to facilitate data sharing by the states **(Annexure VII)**. These were supplemented by baseline data for states from other sources like National Health Accounts and other large sample surveys, where applicable.

Data analysis

Content analysis of the qualitative data was carried out using pre-determined codes, corresponding to the study objectives. For each state, we extracted the characteristics for each dimension of fragmentation before and after reforms and used these to assess the extent of the defragmentation reforms undertaken. Thematic analysis was carried out under the codes of predisposing factors/motivators, key inputs and processes, enablers, barriers, positive impacts, and persisting challenges.

Ethical review

Ethical approval for the study was obtained from The Board of Research Ethics (BORE), Goa Institute of Management. Written informed consent was taken from participants prior to conducting interviews. In some cases, verbal consent was taken on the request of the interviewees.

Findings

India case study 1: Kerala
Kerala has been implementing PSHI schemes since the 2008 rollout of RSBY. However, there have been state-led initiatives as well.

Salient features and defragmentation timelines

- In Kerala, three PSHI schemes, namely RSBY-CHIS (Comprehensive Health Insurance Scheme), CHIS Plus, and Karunya Benevolent Fund (KBF) scheme were defragmented into the Karunya Arogya Suraksha Padhathi - Pradhan Mantri Jan Arogya Yojana (KASP-PMJAY) scheme in 2019.

- Kerala adopted PMJAY in the same way that it had adopted RSBY into RSBY-CHIS and CHIS Plus, by covering an expanded number of eligible beneficiary groups, and including additional treatments than those mandated by the Centre, under its merged scheme. Both

the RSBY-CHIS and CHIS Plus schemes were implemented by the Comprehensive Health Insurance Agency of Kerala (CHIAK) under the Department of Labour and Employment.

- The KBF scheme (launched in 2011) was funded and implemented by the Lottery Department under the Taxes Department and covered low-income populations not eligible under RSBY-CHIS and CHIS Plus. The scheme also covered certain expensive treatments for life-long conditions like hemophilia.

- KBF scheme was merged with KASP-PMJAY by streamlining its implementation with the same agency (CHIAK) as the other schemes. The defragmented KASP-PMJAY adopted a part of its name ('Karunya'), to indicate the continued revenue allocated to the merged scheme (to the single implementing agency) channeled from the Lottery Department under the Taxes Department.

- Benefits under the revenue from the Karunya fund continue to be provided to beneficiaries who are not eligible under the CHIS/PMJAY categories, despite repeated earlier resolutions to discontinue this through the merger of CHIS Plus and KBF packages.

- The popularity of the KBF scheme was largely attributable to its broader eligibility criteria to include all those earning an income up to INR 300 000 per year (~3640 USD). Life-long treatment for haemophilia patients was the unique feature of KBF and it continues to be available under the merged scheme.

- Strategic purchasing functions for the KBF scheme such as beneficiary enrolment, hospital empanelment, and claim processing were aligned and merged with the defragmented scheme, using a single digital platform.

Below is a broad schematic of the pre- and post-merger landscape in Kerala:

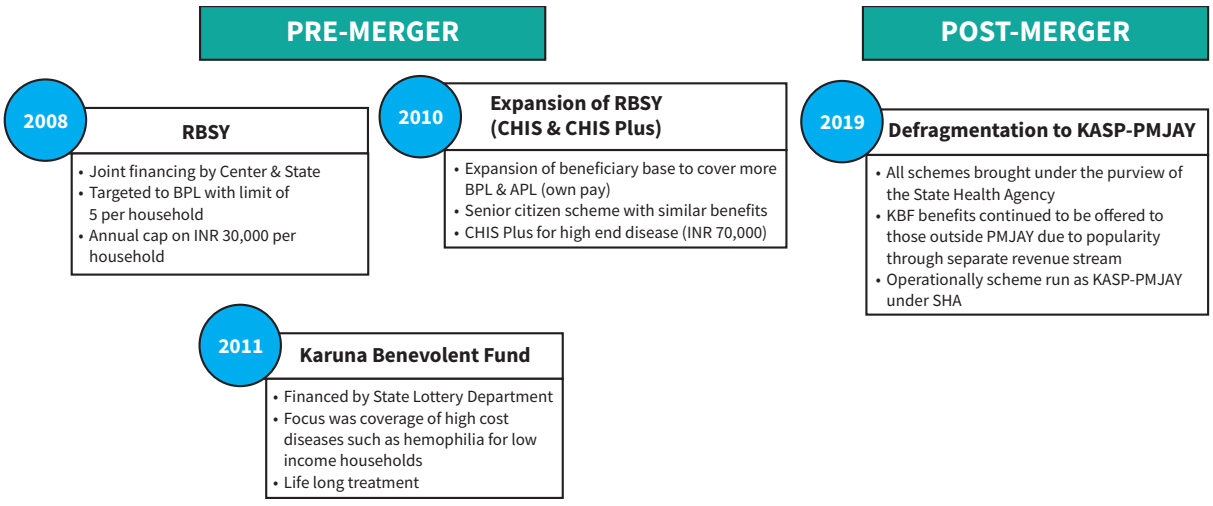


Fig. 1. Pre- and post-merger landscape in Kerala

Predisposing factors for defragmentation

- **Overlap of benefits and service delivery**
  The government was cognizant that the existing RSBY-CHIS and CHIS Plus schemes

on the one hand and KBF on the other, overlapped considerably with respect to the conditions for which coverage was provided and the procedures included. To streamline implementation mechanisms and avoid these overlaps, they favored defragmentation of the schemes, under a single implementing agency under the Health Department.

- **Introduction of a federally financed scheme with a larger benefits package and well-defined guidelines for strategic purchasing functions**
  PMJAY, the centrally sponsored scheme that was introduced to replace the existing RSBY, provided a well-suited platform and key motivator for state governments to rationalize their existing schemes for funding hospital-based care. The INR 500 000 (~6080 USD) coverage was larger than the ceiling coverage available in the state, under any of its existing schemes for hospital-based care. Detailed guidelines for strategic purchasing functions, including beneficiary identification, hospital empanelment, claim management, grievance management, and monitoring and fraud control were developed. The suggested structures for institutional arrangements with some flexibility for adaptation, could be used as guidance by states to set up their own systems, with technical guidance from the NHA, which also provided a common IT platform for all scheme processes.

Enablers

- **Technical know-how among state administration**
  Defragmentation in Kerala meant that a popular scheme under one government department would have to be transferred to a different department, which is often a challenge for decision-makers. However, the senior administrative leadership for health in the state was aware of the potential for misuse that could arise (and was reportedly occurring), when beneficiary identification and provider payment mechanisms remain largely manual or paper-based, with weak validation mechanisms, impacting judicious and efficient use of public resources. This technical understanding of the scope of the existing schemes and the benefits from defragmentation was important to convince the senior political leadership to make necessary decisions towards integration.

  In a similar way, current administrators are aware of the potential benefits of integrating publicly financed schemes for hospital-based care with overlapping beneficiaries and similar benefits. The main advantages were seen in increasing administrative efficiency through a single- organization with the capacity for strategic healthcare purchasing. Further, the administration was convinced about the benefits of moving from open-ended purchasing, that is, retrospective fee-for-service based reimbursements to different sets of providers and through multiple mechanisms for managing claims, to a single digital platform for claim processing which would also help in monitoring the flow of finances and services in a more streamlined manner. Hence, currently, the state has a plan to merge several schemes covering hospital-based care under the National Health Mission (NHM), with the KASP-PMJAY **(Annexure VII)**.

- **Managing the political economy; role of the Finance Department**
  The KBF scheme was popular politically and among the public. Although its merger could strengthen the scheme's effectiveness and eliminate the potential for misuse among providers, effecting a decision to defragment the scheme was challenging. Convincing the Finance Department was a key enabler in this process, through arguments for

increased administrative and spending efficiency that could be obtained through defragmentation. Despite the decision to defragment the revenue sources, the state retained the name' Karunya' in the merged scheme to indicate the link with the original scheme and acknowledge the continued funding source. This required buy-in from the central leadership of the NHA as well. State and central administrators worked together to bring the necessary political buy-in for defragmentation decisions. This facilitated further implementation decisions, across government departments.

The state now has a long-term plan to merge the different health financing schemes (up to six schemes are planned for merger across three different departments following the initiation of KBF defragmentation). This was formalized in the government mandate to the new SHA during its formation, which included the integration of schemes as one of the functions of the new agency.

Barriers

- **Public and provider support for the existing scheme**
  The KBF scheme enjoyed immense public support, which needs to be looked at in the specific context of Kerala. It is the only state with special purpose lotteries – Karunya is one such lottery, the revenue earmarked for health protection purposes only, as the Karunya Benevolent Fund. The diseases covered under KBF are unique and not all were covered under KASP-PMJAY at first. There was widespread opposition against ending the scheme on account of the fear that patients with diseases like hemophilia and thalassaemia would be deprived of regular treatments provided under KBF. Private providers also opposed the defragmentation efforts, as there was, alleged potential for double-billing under the earlier scheme, with minimal checks and balances for detecting fraudulent practices.

India case study 2: Chhattisgarh

Salient features and defragmentation timelines

Sanjeevani Sahayta Kosh, the first health financing scheme in Chhattisgarh was launched in 2001 under the Department of Health and Family Welfare. Since then, several other schemes were launched, each with its own eligibility criteria, benefits package, coverage limit, provider network, and functional processes. By 2016, a total of six separate schemes were operational in the state, five by the Department of Health and Family and one under the NHM. These schemes were:

1. **Sanjeevani Sahayta Kosh (SSK)** - Funded by the state government, this scheme provided financial assistance of up to INR 300 000 (~3640 USD) to BPL families for select high-cost medical care. At the discretion of the state Chief Minister, financial assistance under this scheme could be extended to persons from Above Poverty Line (APL) families.

[b] *The main programmatic components of the National Health Mission (NHM) include Health System Strengthening, Reproductive-Maternal- Neonatal-Child and Adolescent Health (RMNCH+A), and Communicable and Non-Communicable Diseases. NHM encompasses its two Sub-Missions, The National Rural Health Mission (NRHM) and The National Urban Health Mission (NUHM). For more details visit https://nhm.gov.in/*

2. **Chief Minister Child Heart Protection Scheme (CMCHPS) or Bal Hriday Yojana** - Funded by the state government, this scheme covered medical expenditure of up to INR 150 000 (~1820 USD) for select heart diseases among children up to 15 years belonging to BPL families.

3. **Chief Minister Cochlear Implant Scheme (CMCIS) or Bal Shravan Yojana** - This scheme covered an expense of up to INR 570 000 (~6930 USD) for cochlear implants in children up to 7 years of age from BPL families. CMCIS was also funded by the state government.

4. **Rashtriya Swasthya Bima Yojana (RSBY)** - Launched by the Central government under the Ministry of Labour and Employment, this scheme provided coverage of up to INR 30 000 (~360 USD) to BPL families. Chhattisgarh extended the benefits package under this scheme to INR 50 000 (~600 USD) subsequently. The premium amount payable to the insurer was shared between the Centre and State in 60:40 ratio up to the INR 30 000 (~360 USD) coverage. The extended coverage was fully state-funded.

5. **Mukhyamatri Swasthya Bima Yojana (MSBY)** - MSBY was an integrated version of the RSBY in Chhattisgarh, which extended the financial coverage to INR 50 000 (~600 USD) for APL families (those not covered under RSBY), reducing eligibility fragmentation. The premium amount for this was entirely borne by the state government.

6. **Rashtriya Bal Swasthya Karyakram (RBSK)/ Chirayu** - Funded and implemented under the NHM, the RBSK scheme conducts medical screening of children up to 18 years of age for a select list of 32 conditions including common defects, diseases, deficiencies, and developmental disabilities, and covers treatment up to INR 600 000 (~7290 USD).

The simultaneous implementation of multiple schemes led to fragmentation-associated challenges and to address the same, the state undertook efforts to merge these schemes.

The defragmentation process began in 2016, when the administration of all six separate schemes was brought under one office, the state nodal agency (SNA), under the Department of Health and Family Welfare. The SNA was already implementing the RSBY and MSBY schemes, which were the largest of these schemes. Authorities believed that this office had the capacity to administer similar health financing schemes. While the administrative office was unified, each scheme still followed its own specific guidelines and processes for healthcare purchasing functions.

Since the SNA was managing all these schemes from 2016 onwards, the agency had first-hand experience with strategic and operational issues due to multiple schemes with their own guidelines, criteria, and processes for various functions of health financing. A need was felt to pool available funds and create a standardized expanded scheme for the population. A proposal for the integration of existing schemes was developed by the senior leadership of the SNA, which was presented to the political leadership at the time. The need for defragmentation of schemes was also suggested by others, including the CEO of PMJAY, during his visit to the state on the launch of the PMJAY scheme. However, due to impending state elections, the ruling leadership did not consider it an appropriate time to make major changes to existing popular schemes.

Towards the end of 2018, PMJAY was launched to replace the existing RSBY. Chhattisgarh adopted PMJAY in the same way it had adopted RSBY and merged it with the existing RSBY-MSBY scheme. The administration of PMJAY was also carried out by the SNA.

A significant political change took place in December 2018 when the ruling political party lost its majority, and a new Chief Minister was appointed from the opposing national political party. In April 2019, following the state general election, a new government was formed.

Following a change in the state government in 2019, the health minister made a decision to merge all the schemes under the SNA. As part of the capacity building initiatives, a visit to study the health financing reforms in Thailand was organized. The actual work on defragmentation began around September 2019. A core team of five members was formed within the SNA, which carried out the micro-planning of integration as well as its implementation and the plans were reviewed on a regular basis by senior bureaucrats.

In 2020 SSK, CMCHPS, CMCIS, and PMJAY were merged and the defragmented scheme, titled Dr. Khoobchand Baghel Swasthya Sahayta Yojana (DKBSSY) was launched. In addition, a new scheme titled Mukhyamantri Vishesh Swasthya Sahayta Yojana – MVSSY (Chief Minister Special Health Assistance scheme) was initiated for the needy population, to cover the healthcare expenses beyond what is covered by DKBSSY, and to ensure that expensive treatments that were earlier included in the SSK and CMCIS, were also retained. All ration card holders of the state were eligible to avail of benefits under this scheme. The maximum benefit cover varies as per the socio-economic category of the beneficiary.

However, the RBSK scheme operational under NHM was continued with a higher level of *pool merging* defragmentation with DKBSSY. Earlier, the scheme had its own empaneled provider network and process for claim management. These functions were integrated with the new scheme on the same IT platforms.

DKBSSY and MVSSY are synchronized to ensure that there are no overlaps between the benefits offered by the two schemes. MVSSY provides financial support of up to INR 2 000 000 (~24,320 USD), only in cases where the procedures/packages are not included in DKBSSY, or in instances where the maximum cover available to a family under DKBSSY has been exhausted. Synchronized operation of these two schemes, ensures that the need for financial support from MVSSY for a beneficiary is identified and processed through the same IT system, and the beneficiary is not required to apply separately. Since DKBSSY integrates PMJAY, the fund requirements for DKBSSY are partially borne by the Centre, thus reducing the strain on the state that funds MVSSY entirely.

[c] *Ration card is an official document issued by state governments in India to households that are eligible to purchase subsidised food grain from the Public Distribution System under the National Food Security Act (NFSA), 2013. NFSA categorizes households into the following ration card categories: Antodaya (AAY), Priority households (PHH), Non-priority households (NPHH) and state priority ration cards*

The core team planned the defragmentation of existing schemes by structuring purchasing functions around PMJAY's guidelines and processes. PMJAY was considered to be a comprehensive scheme in which all strategic purchasing functions had been clearly defined by NHA, as well as with funding support from the Central Government. It thus made sense to the state authorities to use PMJAY as the core design of the integrated new scheme (DKBSSY), on which the MVSSY was also built.

Below is a broad schematic of the pre- and post-merger landscape in Chhattisgarh:

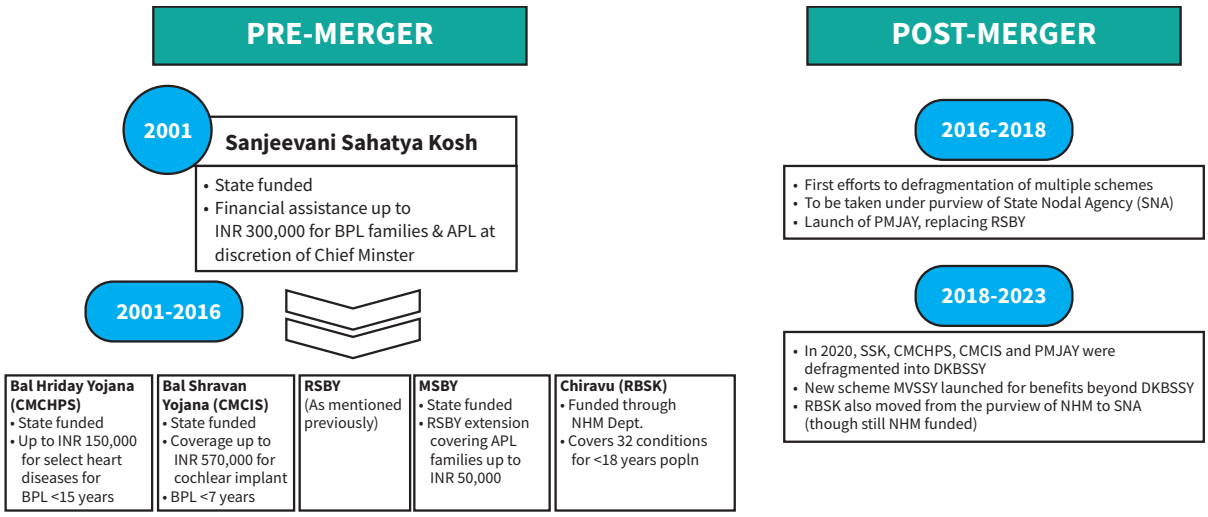


Fig. 2. Pre- and post-merger landscape in Chhattisgarh

Predisposing factors

- **Operational challenges resulting from complex processes, duplications, and overlap of benefits**
  The implementers of multiple schemes in the pre-merger period faced several challenges mostly due to overlaps, lack of clarity, and people exploiting loopholes in scheme guidelines for their benefit. Significant time and effort of the implementing agency used to be spent on handling these issues on a case-to-case basis. The team realized that a lot of these operational issues could be resolved by having one well-structured scheme. The need to defragment schemes and an initial plan originated within the SNA itself and was later presented to senior leadership. When the decision for defragmentation was taken, the staff at the implementing agency saw this as an opportunity to improve their daily work. This motivated them to put in extra effort and develop a further detailed implementation plan, which would overcome the problems and challenges faced in multiple over-lapping schemes.

Enablers

- **Administrative consolidation**
  In 2016, the administration of all schemes was consolidated under one office, that is, the SNA. With the same human resource team handling administrative functions of all schemes, they were able to understand the scope for improvement and opportunities for defragmentation, which later formed the basis for the reform proposals developed.

- **Political will and feasibility**
  The defragmentation reforms significantly benefitted from the willingness and support of the political leadership in merging the fragmented schemes. As per the core committee, the political leadership (the health minister played a key role in driving the reforms) was not just willing but encouraged the department to work on defragmentation. Periodic reviews by leaders on the progress of processes kept the momentum going among the implementers. The key messages communicated by the team to obtain political support, are summarized in the box below.

- **Launch of the federally supported PMJAY scheme**
  The launch of PMJAY, with a significant benefits package and central technical and shared funding support, provided a suitable platform for the state to merge its multiple schemes into one large comprehensive scheme. Due to the detailed guidelines and well-designed processes for strategic purchasing functions outlined for the scheme, aligning other health protection schemes in the state with these appeared feasible.

- **Technical expertise in IT**
  The state had a well-developed IT system in place for managing the RSBY-MSBY scheme. The in-house IT team was key to enabling the creation of customized functionalities required for merging all state schemes digitally into DKBSSY and the provisions required for the MVSSY additional financial cover.

Box 3: Reasons for political willingness towards scheme integration in Chhattisgarh

- The political leadership could see that defragmentation of schemes would create a unified database of health data for all eligible beneficiaries and would help appropriately identify eligible populations.
- Defragmentation would pool available resources and not put a significant strain on financial resources.
- Defragmenting schemes would not lead to discontinuation of benefits to any population segment, who were earlier covered under any of the schemes.

- **Reliable socio-demographic database for identifying eligibility of the population**
  One major hurdle in targeted health financing schemes is to effectively identify eligible beneficiaries in the population. This requires a reliable system of identification and validation. The Chhattisgarh state's ration card system was one such system that was reliable and updated. This enabled the state to use this to identify the right beneficiaries and differentiate between eligible groups for planning and implementation.

Barriers

- **Data inadequacy**
  There was an intent to extend the merger of schemes beyond those under the administration of the Department of Health, for a wider-ranging reform of similar health protection schemes. The state held a meeting with other departments such as the Department of Labour and Employment, and the Department of Police Administration, etc., in this regard. However, the data being managed by different departments for

their employee health benefit schemes, were inadequate or not in a format that could enable them to reconcile with the defragmented scheme requirements. Due to this, defragmentation was restricted to all schemes functional under only one department, that is, the Department of Health and Family Welfare.

- **Lack of central merger of similar schemes (NHA and NHM)**
  Of the six schemes planned for eventual merger by the SHA, two schemes include shared financing between the Centre and the state. The defragmentation of these schemes at the central level appeared to be a necessary first step to facilitate state-level merger. In most states, defragmentation was usually done by harmonizing fully state-sponsored schemes. Chhattisgarh is the exception to this observation as they have managed to merge the Rashtriya Bal Swasthya Karyakram (RBSK), which is under the NHM with state schemes. The single transaction management system that is used for processing claims of the defragmented scheme is also used to process RBSK claims, and payments are made from NHM funds routed through the state nodal agency. Such *pool merging* defragmentation can be considered by states as a first step towards defragmentation, in the absence of central merging of schemes with shared financing

Persisting challenges from the perspective of integration

While the defragmentation of schemes improved several inefficiencies and challenges, some challenges persist.

- *Human Resources limitation* **-** Scarcity of human resources at the implementing agency persist, with available staff performing multiple functions associated with the scheme.
- *Quality issues* - The merged scheme has few systems in place to ensure a defined level of quality of care to its beneficiaries. In absence of quality monitoring systems, healthcare quality can likely deteriorate ultimately leading to poor health outcomes.
- *Provider issues* **-** Some of the provider-related issues, such as delayed payments or claim rejections without satisfactory reasons, continue. This needs to be tackled to ensure that providers remain with the scheme in the long-term.
- *Profiteering opportunities* **-** While several systems are in place to avoid malpractices, reports of misuse persist. Double billing by providers is still a possibility. Instances of balance billing patients have also been reported. The existence of middlemen cannot be ruled out.

India case study 3: Rajasthan

Salient features and defragmentation timelines

- In 2021, Rajasthan launched the Mukhya Mantri Chiranjeevi Swasthya Bima Yojana (MMCSBY or Chiranjeevi scheme) to provide financial assistance and reduce the OOP expenditure by families on healthcare along with the intention to implement UHC in the state. The Chiranjeevi scheme covers almost the entire population of the state as eligible beneficiaries and provides a total sum insured of INR 1 000 000 (~12,160 USD) per family per year.

- The earliest health insurance scheme implemented in the state of Rajasthan was the centrally sponsored Rashtriya Swasthya Bima Yojana (RSBY) launched (first in 2008 and

relaunched in 2012) under the Department of Labour in an insurance mode. Around 3.7 million families were covered under the scheme which provided coverage of INR 30 000 (~360 USD). Another health protection scheme Mukhyamantri Jeevan Raksha Kosh (Chief Minister Relief Fund) existed since 2009 that covered expenses for BPL families across government health facilities in the state.

- RSBY was discontinued after the Bhamashah Swasthya Bima Yojana (BSBY) launch in 2015. Under BSBY, the sum insured was increased to INR 330 000 (~4000 USD) per family per year, split as INR 30 000 (~360 USD) for secondary care and INR 300 000 (~3640 USD) for tertiary care. The state government based eligibility for the scheme was based on the National Food Security Act (2013) criteria. A state nodal agency, Rajasthan State Health Assurance Agency (RSHAA) was established for the implementation of BSBY. BSBY was implemented in Phase I from 2015-2017 and Phase II from 2017-2019. Major differences between the phases were in regard to the number and type of benefit packages and their rates.

- In 2019, Rajasthan renamed the state scheme (that is, BSBY) as Ayushman Bharat - Mahatma Gandhi Rajasthan Swasthya Bima Yojana (AB-MGRSBY) but retained all features of the earlier BSBY as they were. This phase continued till 30th January 2021.

- Rajasthan's major reforms targeted at reducing risk pool fragmentation and achieving UHC were introduced in the form of the MMCSBY or Chiranjeevi scheme as the expanded version of the AB-MGRSBY, on 1st May 2021.

- A separate health protection scheme, Rajasthan Government Health Service (RGHS) exists under the State Insurance and Provident Fund Department for Rajasthan Government staff including current and ex-members of Legislative Assembly, Ministers, state government employees, and pensioners including those availing benefits under the Medical Attendance Rules of the State. RGHS is run on a separate platform, completely independent from Chiranjeevi, and covers a broader range of services (out-patient, in-patient, and medicines).

Below is a broad schematic of the pre- and post-merger landscape in Rajasthan:

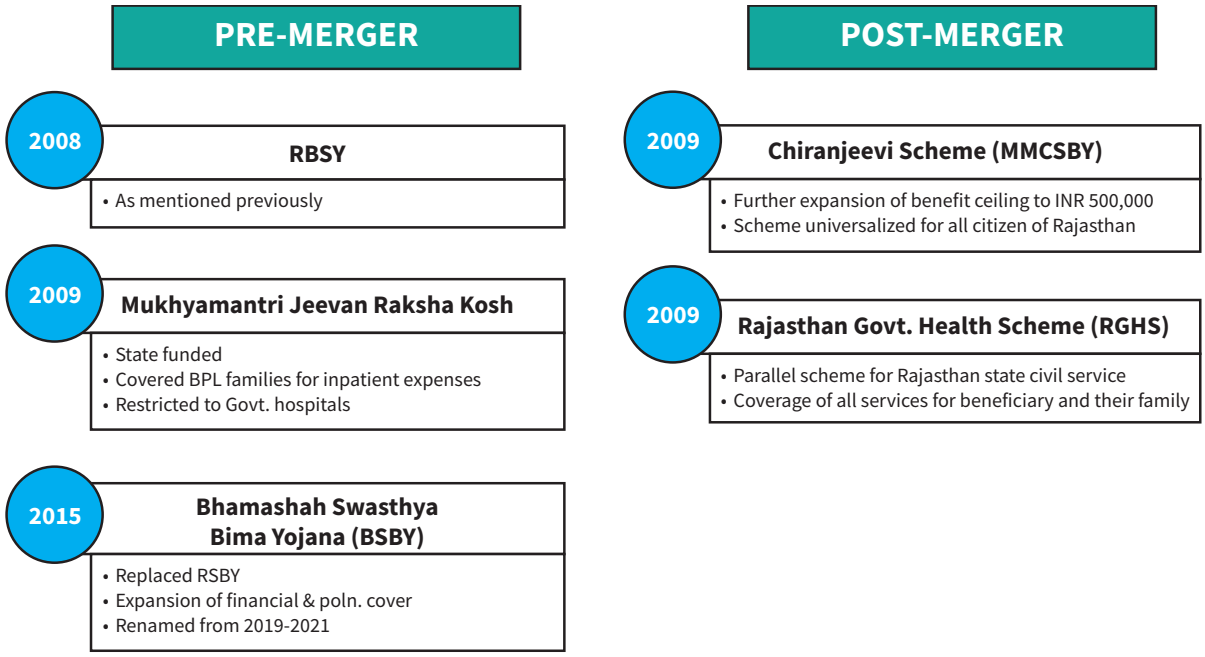


Fig. 3. Pre- and post-merger landscape in Rajasthan

Predisposing factors

- **Political will: Health and universal health coverage as a priority policy agenda**
  Rajasthan has already been providing free drugs under the Mukhya Mantri Nishulk Dava Yojana (MNDY) and free diagnostics services under Mukhyamantri Nishulk Jaanch Yojna (MNJY) since 2011 and 2013 respectively. In addition, recently under the Nirogi Rajasthan initiative (this was launched in 2022, post Chiranjeevi scheme), the Government has announced the cancellation of any registration/ user fees at all the public hospitals along with the free provision of outpatient and inpatient services to all the residents of the state coming to all categories of government medical institutions. Thus, services are made available to the population through out-patient (through Nirogi Rajasthan) and in-patient (through Chiranjeevi scheme). This reflects the importance accorded to health in the political agenda. Further, the experiences during COVID-19 expedited the expansion of the health insurance scheme as detailed below.

  Additionally, intending to safeguard the right to health of all residents, Rajasthan introduced the Right to Health Bill in the State Legislative Assembly under the 'Rajasthan Model of Public Health'. The Bill was approved and seeks to protect the rights of patients and ensure equity in access to healthcare for all by establishing legal rights and entitlements of residents. This legislation reinforces the state's commitment to UHC for its population, spanning across individual schemes and programmes.

- **Experiences during the time of COVID-19**
  After the onset of COVID-19, it was realized (at all levels of the government) that people had to bear a large amount of OOP expenses in private hospitals. The lack of standardized rates for COVID-19 related treatments combined with the perceived monopoly of the

private sector was recognized as a problem. It particularly caused hardships to those who could not be classified as poor (and hence were not eligible for government schemes) but were unable to shoulder the burden of COVID-19-related health expenditures. This realization precipitated the expansion of health insurance by introducing the 'paid' category of eligible beneficiaries and the launch of the Chiranjeevi scheme towards achieving UHC with the specific purpose of addressing OOP costs and assuring quality healthcare to its residents

Box 4: Purpose of Mukhya Mantri Chiranjeevi Swasthya Yojana

1. To reduce the OOP expenditure on health of eligible families.
2. To provide quality and specialist medical facilities to eligible families through government hospitals as well as private hospitals affiliated in the scheme.
3. To provide free treatment of diseases related to the packages mentioned in the scheme for the eligible families of the state.

Source: Chiranjeevi Scheme website, Rajasthan
https://chiranjeevi.rajasthan.gov.in/#/chiranjeevi/purpose-of-scheme

Enablers

- **Launch of PMJAY**
  Reflecting the experiences of other states, the launch of PMJAY enabled Rajasthan to streamline processes/mechanisms in accordance with those at the national level. Consequently, the annual benefit package was increased from INR 330 000 (~4000 USD) of BSBY to INR 500 000 (~6080 USD), alignment of benefit packages and rationalization of rates based on PMJAY guidelines and past state experiences was undertaken. PMJAY provides standard operational guidelines and model tender/agreements that states can adapt as per their needs. Additionally, PMJAY introduced an additional revenue source through premium contribution for SECC families (60% of the premium ceiling at INR 1052 (~12 USD) per family per year).

- **In-house IT platform for scheme implementation**
  Rajasthan has its own IT platform, developed at the time of BSBY by RajCOMP Info Services Ltd. (RISL), a fully owned Government of Rajasthan Company. Both the beneficiary identification and transaction management systems were developed by RISL which were central to the implementation of BSBY. At the time of the PMJAY launch, the state did not adopt the NHA IT platform, unlike most other states. This allowed the state better control over the system and greater flexibility in making modifications as and when needed, without having to rely on NHA for any software-related issues. However, data sharing with the NHA platform is problematic and portability across states is unavailable at the moment. In-house dashboards reflect real-time data and are used to monitor claim payments by the insurance company effectively. There is an increased focus on the use of data analytics techniques to examine scheme outputs over time, to aid in policy decisions.

- **Jan Aadhaar card**
  A unique initiative of the Rajasthan Government was the creation of the Jan Aadhaar database that stores family-level demographic and socio-economic data. The Jan Aadhar card serves as a unique identifier for families and individuals and enables quick and easy

identification of eligible beneficiary families across various government schemes. A two-step verification process and de-duplication efforts help make the Jan Aadhaar card a unique identifier.

- **Single implementing agency**
  RSHAA was established at the time of BSBY to implement the scheme and has gained valuable experience in health insurance implementation since then. This has allowed the organization to leverage the knowledge gained from each phase of insurance implementation and incorporate the learnings in the currently integrated scheme, that is, Chiranjeevi scheme, which has a significantly larger coverage of the population, benefits, and financial coverage.

Barriers to integration of additional schemes

While there have been discussions on further defragmentation across financial protection schemes (such as the RBSK under the NHM programme), the schemes are currently largely independent. Some *pool merging* defragmentation of hospital networks has been carried out, as cases under RBSK are being directed to empanelled hospitals under Chiranjeevi. Similarly, the Chief Minister Relief Fund applications are being directed to RSHAA for those packages which are covered under Chiranjeevi (majority of the applications) since packages for certain implants and organ transplants which were earlier funded through the Chief Minister Relief Fund have now been included under the Chiranjeevi scheme. The Rajasthan Government Health Scheme (RGHS, for full-time government employees and pensioners) is implemented independently from the Chiranjeevi Yojana. A process to connect the data systems of these two schemes is ongoing so that a comprehensive database can be obtained. However, the design and administration of the two schemes is envisaged to remain fragmented. Differences in funding sources, benefits packages, and resistance to infringe on the administrative oversight of another government department, were the key reasons observed for these decisions. This finding was common to other states that continue to retain separate means of health insurance coverage for full-time government employees.

Challenges post Chiranjeevi

While all stakeholders agreed that the scheme has significantly improved access and equity of access to healthcare, especially for the poor, there were some serious apprehensions about the sustainability of the scheme and its unintended consequences on advanced healthcare in the state. The bundled payment rates currently adopted by the state do not work for the business models of some larger for-profit hospitals. The universality of the scheme creates a market where all providers need to be empanelled to continue serving the state population. However, reports of being compelled to change the types of inputs used in the bundled service package, to allow for financial viability were obtained. Hospitals expressed these concerns as having the potential to impact the quality of care in the long term. These issues are expected in large financing schemes such as Chiranjeevi and must be systematically studied and addressed.

India case study 4: Assam

Salient features and defragmentation timelines

In Assam, five health protection schemes had been launched between 2010 to 2018 in order to provide financial support for hospital-based expenditure to low-income populations. These schemes were the Congenital Heart Disease (CHD) scheme (2010), Assam Aarogya Nidhi (AAN - 2012), Snehasparsh scheme (2013), Atal Amrit Abhiyan (AAA - 2016), and PMJAY (2018). Opportunities for defragmentation were considered across these schemes during 2019. In January 2020, some harmonization occurred between AAA, PMJAY, and CHD schemes, while AAN and Snehsparsh scheme continue to be implemented independently.

- AAA is a fully state-sponsored health protection scheme, providing financial cover up to INR 200 000 (~2430 USD) per individual to cover tertiary healthcare for residents of Assam having an annual family income below INR 500 000 (~6080 USD). AAA was launched in December 2016 under the NHM as a reimbursement scheme. This meant that eligible beneficiaries had to submit their medical bills and eligibility proofs, which would be reviewed by a committee. Post approval, beneficiaries would get reimbursed. Structured purchasing functions such as beneficiary enrolment, hospital empanelment, audits of claims, etc., were not carried out at the time.

- Later in 2017, the Atal Amrit Abhiyan Society (AAAS) was formed to implement AAA but with a small workforce. In April 2018, the scheme was converted to cashless mode, that is, direct reimbursement to providers was initiated. A new implementation support agency (ISA) was appointed to support AAAS in carrying out strategic purchasing functions. At the time, the ISA had its own IT platform which was used for implementing AAA.

- A few months later, in September 2018, the PMJAY scheme was launched in Assam. As the AAAS was new and had recently re-designed the implementation of the AAA scheme, PMJAY was launched in the state as a parallel scheme, with only organizational consolidation (PMJAY implemented under the AAA society). PMJAY was launched on the same IT platform as AAA, however, the two schemes were running in parallel with two separate interfaces on the IT system. At the end of the ISA contract period, in April 2020, PMJAY and AAA were transferred to the NHA's IT platform, enabling integration of claim management function. A new ISA was appointed for a period of three years, and the AAAS and ISA implemented both schemes. The two schemes were further harmonized to some extent with respect to provider empanelment and payments.

- The CHD scheme was launched in 2010 to provide surgical treatment for children of residents of Assam, from families with an income below INR 600 000 (~7290 USD) in need of surgery for congenital heart disease. The scheme was under the administration of the office of the NHM. In the case of the CHD scheme, the process of beneficiary screening, identification, claims submission, approval, and payments were done manually at first. It was observed that most of the procedures covered in the CHD scheme were covered in AAA as well. With the more robust strategic purchasing functions of AAA in place, the state decided to partially transfer the claim management and payment process of CHD scheme to the IT platform of AAA and under the ambit of AAAS. However, the other components of the benefits package in the CHD scheme, such as travel costs for patients and attendants, daily allowances, etc., which were unique to the scheme, were retained within a special

cell for CHD scheme in the office of the NHM. These two schemes have, therefore, achieved some level of pool merging defragmentation for claim management.

- Additionally, the state is now in the process of further defragmentation of the PMJAY and AAA schemes, in terms of the risk pools and benefits packages for either scheme. The NFSA database would be adopted, and all ration card holders would be included in the scheme. In Assam, only the BPL population have been provided with ration cards. The new scheme would be named Mukhya Mantri Jan Arogya Yojana. It will include a total of 5.6 million families with cost sharing between central share for 2.7 million SECC families and full state funding for the rest. All families will get PMJAY benefits – INR 500 000 (~6080 USD) as sum assured and all packages under PMJAY (AAA cover of INR 200 000 (~2430 USD) per individual being changed to family floater cover of INR 500 000 (~6080 USD) per family). The decision is foreseen to be implemented within the first half of 2023. Current AAA beneficiaries who would not be covered in the NFSA database, will not be covered by the Mukhya Mantri Jan Arogya Yojana. They will continue to hold the earlier AAA benefits. These plans indicate further defragmentation reforms underway in the state.

Below is a broad schematic of the pre- and post-merger landscape in Assam:

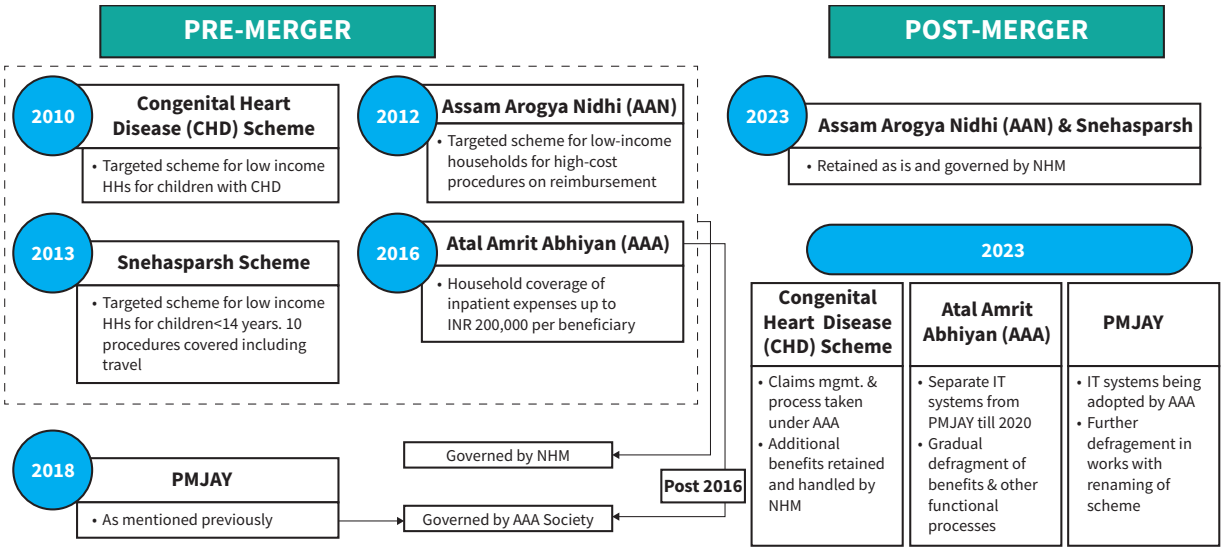


Fig. 4. Pre- and post-merger landscape in Assam

Predisposing factors

While Assam has initiated some level of defragmentation across schemes and is now beginning a process of further merger between PMJAY and AAA, the following factors have motivated these decisions.

- **Political will for health finance reforms**
  The current political leadership has had a long working experience in the health sector. Due to Assam's challenges with health system performance in some aspects such as maternal health, etc., this sector is being prioritized for increasing investments. Health insurance schemes, such as the planned Mukhya Mantri Jan Arogya Yojana, which will cover a much larger beneficiary base with a broader benefits package, are being seen as a tool to improve the state's overall health system performance.

Enablers

- **Enhanced capacity of AAAS for implementation of an integrated scheme**
  Unlike the time when PMJAY was initially launched, AAAS has grown in terms of the number of human resources and capacities. The experience of implementing AAA and PMJAY has provided the necessary confidence to the state team to consolidate and further expand the scheme, decreasing fragmentation in its current coverage structure.

Barriers

- **Need for a better database to identify eligible beneficiaries due to the targeted nature of schemes**
  The means to identify eligible beneficiaries under AAA is cumbersome. AAA beneficiaries with an annual family income between INR 120 000 to INR 500 000 (~6080 USD) face difficulties in obtaining income certificates from the concerned departments, as many of the beneficiaries are not salaried employees, thus creating challenges in assessing income. This formed a barrier for many eligible persons to obtain benefits under the scheme. Similar means-tested criteria apply to the PMJAY and CHD schemes as well. The database used for SECC is known to be fraught with challenges across states, due to its dated nature (created in 2011). This results in very few beneficiaries being identified and obtaining scheme benefits. It also could result in errors of inclusion. Assam has therefore decided to use the NFSA database (similar to many other states), to improve the veracity and effectiveness of scheme outreach. This barrier is now being worked upon, as part of the state's efforts at reducing fragmentation across schemes.

- **Possible future challenges in governance**
  The administrative structures for the schemes have recently been further segregated. The NHM (nodal office for CHD) and AAAS office are under the Departments of Health and Family Welfare, and Medical Education and Research, respectively. There are other schemes in Assam with overlapping benefits (explained further below), which are also being implemented under NHM. These structural changes can possibly create challenges for further defragmentation decisions across similar schemes, which have scope to be defragmented at least functionally.

Scope for integration of Snehasparsh and AAN schemes

Two additional schemes were identified during an earlier assessment of possible harmonization of the financial protection schemes in Assam for hospital-based care. The Snehasparsh scheme started in 2013 aims to bear expenses arising out of specific high-end medical treatments, such as liver transplant, artificial limb, thalassemia treatment, etc. for children below 12 years of age. The beneficiaries of the scheme include families of Assam with an annual income of less than INR 250 000 (~3040 USD). The scheme is implemented entirely by the state officials, without any contracted ISA.

Assam Arogya Nidhi, launched in 2012 reimburses individuals with a family annual income of less than INR 500 000 (~6080 USD), up to a maximum of INR 300 000 (~3640 USD) for selected general and specialized treatment at any hospitals, recognized under the scheme. The scheme

lists about 30 procedures under 10 categories of care that are admissible for consideration of financial assistance under the scheme. Beneficiaries not eligible for PMJAY and AAA can apply for the scheme. A screening committee, under the chairmanship of the Health Minister has been put into place to select the eligible beneficiaries from among those who have applied for financial assistance under the scheme.

In these two schemes, structured purchasing functions, supported through an IT platform, are somewhat lacking. These include enrolment of beneficiaries, provider contracting mechanisms, grievance redressal mechanisms, monitoring, and fraud control. Claim management functions of these schemes are found to be relatively subjective and based on manual processes. There are some overlaps in terms of eligible beneficiaries and benefits provided under AAN with those in AAA and PMJAY. Although these overlaps are not by design, they can result in the absence of mechanisms to identify and measure any duplications taking place. Overlaps in eligibility would be more clearly defined when the state begins using the NFSA database for beneficiary identification, which could be expanded for all existing schemes. Therefore, there is an opportunity for further harmonization of functions under these schemes, as per the needs of the state. Lessons from Chhattisgarh, which has streamlined benefits for expensive treatments under MVSSY into a common IT interface, mediated by an approval from the medical experts, would be useful for Assam, in this regard. Certain manual claim processing steps under the existing CHD scheme, and those of Snehsparsh and AAN could also be considered for integration with existing IT systems for AAA and PMJAY. These measures could result in ease of operations and administrative efficiency for the state without the need to discontinue the benefits under any of these schemes.

Conclusion

As can be garnered from the review above, defragmentation can achieve multiple health system objectives. However, its form and function is dictated by the specific objectives envisioned by policymakers as well as the local contextual milieu in which reforms are undertaken. Moreover, while an important element of promoting systems efficiency and equity, defragmentation is one of the tools to this end. Countries and states must necessarily adopt the lens of ends driven reforms to affect wider change in line with UHC objectives.

The review also found that one of the most critical factors that predispose as well as enable defragmentation efforts is the political prerogative and support. Additionally, technical capacities, institutional coherence, critical infrastructure and established guidelines are also important enablers of defragmentation efforts. Finally, barriers often stem from vested interests and/or the inherent popularity of defragmented schemes, making it challenge to reform based on purely technical parameters. However, in addition to resolution of such technical barriers (IT, beneficiary database, etc.) countries must often navigate within the realm of the practical and political feasibility to arrive at a form and structure of defragmentation that can help lead it closer to its intended health systems objectives.

Part 2

Conceptual framework and typology for defragmentation reforms

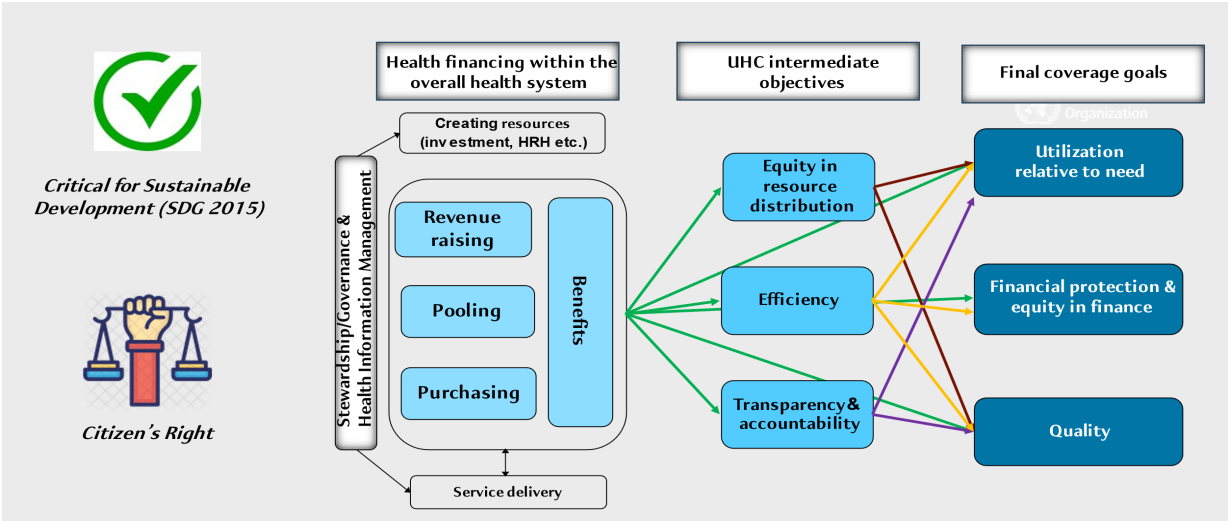
Background

This section attempts to provide a conceptual framework and typology for defragmentation efforts within PSHI schemes, based on the aforementioned experiences. The proposed model is limited to experiences and insight from efforts undertaken towards defragmentation in the context of PSHI schemes. As mentioned, the framework does not account for wider system defragmentation as would entail broader considerations and dynamics vis-à-vis structural, process and implementation factors which will need to be taken into consideration.

Rationale for the framework

The World Health Organization (WHO) has described a framework that relates health financing functions and the attainment of UHC (21). The framework defines three health financing functions: revenue raising, pooling, and purchasing. In publicly financed systems or in mixed systems, public financing is usually raised in sectors outside the purview of the health sector. Therefore, the influence of the health sector in reforming revenue collection is limited. It usually involves government-wide reform and competing political and economic priorities, with health as one of the many sectors as part of it. That said, additional gains for resources are possible from within the health sector through mandated social health insurance with marginal gains in revenue also possible through point of service payments such as co-payments or user fee.

However, pooling and purchasing functions are often within the purview of the health sector and play a vital role in determining broader policy objectives such as efficiency, quality, equity, financial protection, transparency and accountability.



Source: Kutzin et al (2)

Fig. 5. Health financing framework for universal health coverage

Review of conceptual frameworks addressing defragmentation

- The literature describes kind of pooling arrangements that exist across the globe. Mathauer et al define the pooling arrangements by nature and by structure (22). The nature of the pooling arrangements includes whether participation is voluntary or mandatory. It further defines them by structure, whether they are single or multiple pools:

Nature of pooling	Structure of the pools
• Compulsory or mandatory or automatic participation • Voluntary participation	• Single pool • Multiple pools: a. Territorially distinct versus territorially overlapping pools in terms of service and population coverage b. Competing versus non-competing c. Population segmentation versus no population segmentation

Table 4. Types of pools

The literature also defines options for defragmentation of financing pools including (22):

(i) shifting to compulsory or automatic coverage for everybody.
(ii) merging different pools to increase the number of pool members and the diversity of pool members' health needs and risks.
(iii) cross-subsidization of pools that have members with lower revenues and higher health risks.
(iv) harmonization across pools, such as benefits, payment methods and rates.

The framework above describes transitions across pooling arrangements at a systemic level. This includes private health insurance schemes and financing arrangements. Mason et al (23), also developed a framework of reforming pooling arrangements. The framework

looks at defragmentation mechanisms in addressing fragmentation of funding between UK's health and social care systems, which while also relating to broader systemic integration, beyond publicly financed health insurance schemes, provides an additional lens from which defragmentation can be viewed. The framework is described in the table below:

Mason et al	Definition
Transfer payments	Transfer payments, respectively, allow local authorities to make service revenue or capital contributions to health bodies to support specific additional health services, and vice versa
Cross charging	Mandatory daily penalties. Compensate for delayed discharges in acute care where social services are solely responsible and unable to provide continuation service
Aligned budgets	Partners align resources, identifying own contributions but targeted to the same objectives. Joint monitoring of spend and performance. Management and accountability for health and social services funding streams remain separate
Lead commissioning	One partner leads commissioning of services based on jointly agreed set of aims
Pooled funds	Each partner makes contributions to a common fund for spending on agreed projects or services
Integrated management/ provision with pooled funds	Partners pool resources, staff, and management structures. One partner acts as host to undertake the other's functions. Includes (but is not synonymous with) 'joint commissioning' across health and social care
Structural integration	Health and social care responsibilities combined within a health body under single management. Finances and resources integrated using the Health Act flexibilities
Lead commissioning with aligned incentives	'Reinvestment payments' to providers based on quality of care and reduced costs of emergency care

Source: Mason et al (23)

Table 5. Defragmentation framework in context of United Kingdom

For the purpose of this report, we adapted the framework proposed by Bossert et al which

describes the six dimensions of fragmentation (5). These are Organizations, Risk pooling, Eligibility, Benefits, Premiums, Provider payments. The dimensions are described in Table 6. below:

Dimension	Definitions
Organizations	Number of different organizations offering financing coverage or insurance to a significant portion of the population (at least 5%). More organizations result in more fragmentation.
Risk Pooling	Presence of mechanisms that pool or share health financing across population sub-groups and/or across financing organizations (for example, payroll tax revenue used for workers' insurance and to help fund coverage for the informal sector). Smaller risk pools and decreased sharing of financing across organizations results in more fragmentation.
Eligibility	Number of different eligibility categories for beneficiaries (if different from number of financing organizations). More categories result in more fragmentation.
Benefits	Number of different benefits packages offered by these organizations (overall and average by type of organization). More benefits packages result in more fragmentation.
Premiums	Number of different contributions or premium levels offered by these organizations (overall and average by type of organization). More premium levels result in more fragmentation.
Payments	Number of different payers and payment mechanisms for major provider types. More payers and more mechanisms result in more fragmented.

Source: Bossert et al (5).

Table 6. Dimensions of fragmentation

Based on the review of implementation efforts in Indian schemes and the literature, the proposed framework expanded on some of the specific indicators and questions to be addressed under each of these dimensions and added in multiple facets of strategic purchasing which are usually observed under schemes (provider empanelment, claim management, grievance redressal, etc.). Furthermore, based on the same review of the implementation efforts as well as literature on governance of PSHI, we identified governance functions that must be addressed during defragmentation. From this, we identified how reforms were targeted at various dimensions of fragmentation and attempted to sequence these processes for each country.

The table below therefore describes the dimensions that are included in the framework based

on the adaptation mentioned:

Bossert et al	WHO India Framework	Definitions/ indicators/ questions to be addressed.
Organizations	Administrative	• Number of different organizations offering financing coverage
		• Strategic or executive functions and structures
		• Supervision and Performance monitoring
		• Financial management and accountability
Risk Pooling	Risk pooling	• Presence of mechanisms pooling or sharing health financing across population sub-groups and/or financing organizations (for example, payroll tax revenue used for workers' insurance and to help fund coverage for the informal sector). Smaller risk pools and decreased sharing of financing across organizations results in more fragmentation.
Eligibility	Beneficiary management	• Number of different eligibility categories for beneficiaries (if different from number of financing organizations). • Also looks at the mechanisms for identification and enrolment of the beneficiaries • Number of different contributions or premium levels offered by these organizations (overall and average by type of organization). More premium levels result in more fragmentation. • Also looks at the equity in premium payments
Benefits	Benefits	• Number of different benefits packages offered by these organizations (overall and average by type of organization). More benefits packages result in more fragmentation. • Also looks at the differences in the content of the benefit package.
Premiums	Merged with Beneficiary management above	
Payments	Claim management	• Mechanisms for managing and processing claims
	Provider empanelment	• The number and types of mechanisms for empanelment of providers
	Fraud management	• The number and type of fraud and abuse management systems in place.
	Grievance management	• The grievance redressal mechanisms available in the scheme
	Provider payment Mechanisms	• The type of provider payment mechanisms in the scheme.
		• Also looks at the differences in the content of the benefit package."

Source: Authors.

Table 7. Dimensions of fragmentation - Adaptation

Typology of defragmentation

The dimensions identified above were then mapped to the observed defragmentation reforms and were categorized into states of defragmentation observed in the specific context, borrowing from patterns observed in the approach of countries to defragmentation reforms. It is important to keep in mind that this report focuses on defragmentation in the context of *mandatory* coverage under publicly sponsored health insurance (PSHI) schemes. In addition to this being the norm for PSHI schemes in India, voluntary coverage does not lend itself to enhancement of systemic efficiency due to limited control and bargaining power a purchaser holds in the case of insurance being voluntary.

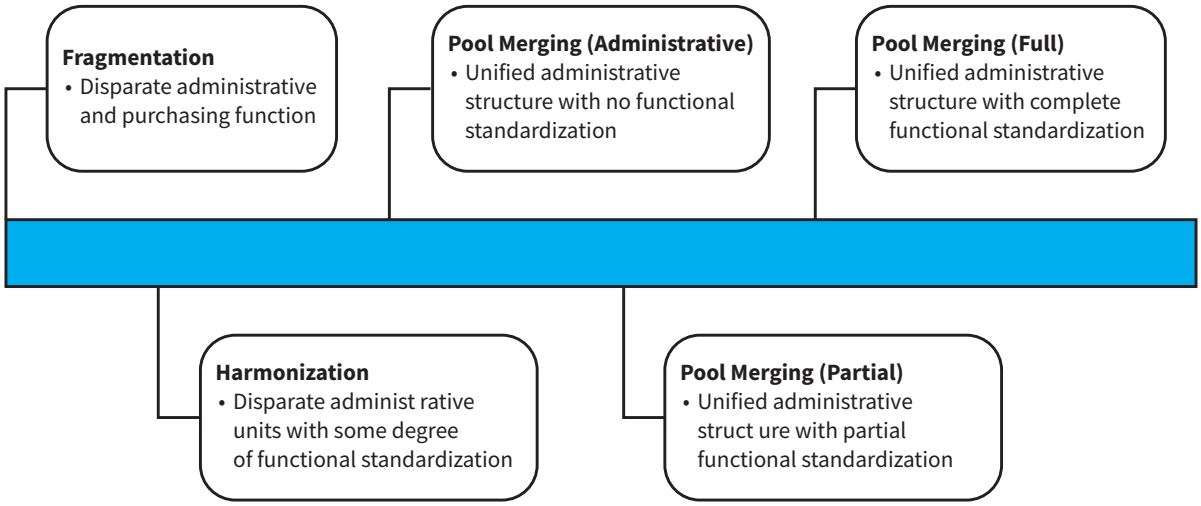
Based on the above, PSHIs can usually be found to exist in three states, which are not necessarily mutually exclusive and evolve along a spectrum of defragmentation. These are:

a) Full fragmentation of pools: This describes the status quo in which all the administrative and purchasing functions are separate. There is no attempt to ensure cross-subsidization or address inequities or inefficiencies that are characteristically present in such systems.
b) Harmonization across pools: This is where the schemes are maintained as disparate schemes managed by different administrative organizations, but attempts are made to ensure equity in access through harmonized functions and processes such as harmonized benefits and payment methods and/or rates
c) Pool Merging: Is where some or all functions of the schemes are merged, including their administrative and/or the purchasing functions. The extent of merging of either function may vary, with some arrangements aligning functions and retaining other functions in the status quo and lastly having all functions merged across erstwhile pools.

    i. Administrative defragmentation: Refers to cases when new organizations are set up for consolidating the implementation of multiple schemes, or smaller schemes are sequentially consolidated under the administrative purview of a single organization. Purchasing functions and the beneficiary risk pool remain disparate in this state of defragmentation.

    ii. Partial merger: Some and not all the purchasing functions are merged but benefits and/or payments are not the same for different population groups. In this case there may be a persistence of separate risk or population pools to an extent, though administrative defragmentation is a prerequisite in that the operations are handled by a single administrative entity.

    iii. Full merger: All purchasing functions including benefits and payment methods are the same for all population groups (whether subsidized or not, whether paying lower contribution rates or not) and have been merged in one pool – this is the idea, with administrative merger, as in the case of partial merger, is a prerequisite.



Source: Authors

Fig. 6. Spectrum of states of defragmentation

The main observation in developing a typology of defragmentation reforms is that states are on a continuum or a spectrum towards such reforms (Fig. 6.), with differing progress along the various dimensions of fragmentation. We see that the pool merging is indicative of a more mature model of defragmentation where greater efficiency gains can potentially emerge.

We used the above framework to describe the type of defragmentation reforms at the state level in the four Indian states (Assam, Chhattisgarh, Kerala and Rajasthan). Considering this, we saw that the states are in a continuum along a maturity scale of defragmentation that is not necessarily linear. In this regard, a state can start off as fully fragmented to a full merger as in the case of Rajasthan, which continually expanded the scheme by adding eligible households while maintaining one public pool. Similarly, a state like Chhattisgarh defragmented by progressively moving from full fragmentation, to an integrum of partial pool merger and further moved to full merger to one single pool. Assam proceeded more cautiously by harmonizing some purchasing functions and merging pools at the administrative level while retaining separate governance structures, eligibility criteria and benefit inclusions for some schemes. This is largely due to political motivations to maintain separate pools at the front end because of the popularity of the state Atal Amrit Abhiyan (AAA) scheme and worries relating to the ability of households to recognize its similarity to the newly launched national PMJAY scheme. Kerala on the other hand moved from full fragmentation to partial merger of schemes with merging of the schemes administrative functions and merging of some but not all purchasing functions. In all the cases review, all states with some levels of merging have integrated their administrative functions.

The presence of a national IT system for beneficiary management, provider empanelment and claims management under PMJAY facilitated the merging of these functions across schemes (except for Rajasthan). Therefore, even in Assam where the state achieved administrative merging but did not merge most of the purchasing functions, these functions are merged. Furthermore, the use of case-based payments in PMJAY made it easy to rationalize payment mechanisms for other schemes that were harmonized or merged in the four states. This is further facilitated by the fact that claims management and provider payment are managed by the same IT system. In this case the IT system in PMJAY has been a big enabler for defragmentation.

		Harmonization	Full pool merger	Partial pool merger	Full pool merger
WHO India framework	**Definitions/ indicators/ questions to be addressed.**	**Assam**	**Chhattisgarh**	**Kerala**	**Rajasthan**
Administrative	• Number of different organizations offering financing coverage	Three schemes managed by one society (AAA, PMJAY and CHD)	six schemes merged into one scheme DKBSSY and merged under leadership of the State Nodal Agency.	CHIAK and Lottery dept previously, later integrated under CHIAK, and subsequently newly formed SHA KASP-PMJAY	RSHAA manages the ever-increasing size of the pool (defragmentation at household level by increasing the number of eligible households)
	• Strategic or executive functions and structures	One Management team led by governing board and executive board	One Management team led by governing board and executive board	Merged fully	RSHAA manages the pool
	• Supervision and Performance monitoring	One team conducting supervision of the Third-Party Administrator	One team conducting supervision of the Third-Party Administrator	Merged Fully	RSHAA does the supervision and monitoring functions
	• Financial management and accountability	Merged Fully	Merged Fully	Merged Fully	Merged Fully
Risk pooling	• Presence of mechanisms that pool or share health financing across population sub-groups and/or across financing organizations smaller risk pools and decreased sharing of financing across organizations results in more fragmentation.	Separate pools for the scheme	One pool for all beneficiaries created for the basic package HBP 2.0 A catastrophic expenditure fund created for high end procedures.	One organization manages the funds from KASP PMJAY and KBF but the funds for KBF used for KBF beneficiaries	RGHS remains a minor but important exception to this classification
Beneficiary management	• Number of different eligibility categories for beneficiaries (if different from number of financing organizations).	Different eligibility criteria for the two schemes.	Universal scheme	Same basic package (PMJAY HBP 2.0) but different cap for eligible groups.	Gradual enrollment of eligible groups increasing
	• Also looks at the mechanisms for identification and enrolment of the beneficiaries	Same BIS system in PMJAY TMS	Same BIS system in PMJAY TMS	Same BIS system in PMJAY TMS	Same State-owned BIS

	• Number of different contributions or premium levels offered by these organizations (overall and average by type of organization). More premium levels result in more fragmentation.	Two separate subsidies for the two groups.	Public subsidy for all. Same premium per capita paid by the government.	No contributions at individual level. Cap is different for groups	Differential payments for APL
	• Also looks at the equity in premium payments	Public subsidy provided according to ability to pay with higher cap for poor and most vulnerable (INR 500 000) and lower cap for wealthier group (INR 200 000)	Same cap for all groups (500 000 INR)	Equitable as it is according to ability to pay but cap never exhausted	Differential payments but equitable.
Claim management	• Mechanisms for managing and processing claims	Same	Same	Same	Same
Provider empanelment	• The number and types of mechanisms for empanelment of providers	Merged processes and providers for all	Merged processes and providers for all	Merged processes and providers for all	Merged processes and providers for all
Fraud management	• The number and type of fraud and abuse management systems in place.	Same System	Same System	Same System	Same System
Grievance management	• The grievance redressal mechanisms available in the scheme	Same system	Same system	Same system	Same system
Provider payment Mechanisms	• The type of provider payment mechanisms in the scheme.	CBG	CBG	CBG	CBG
Benefits	• Number of different benefits packages offered by these organizations (overall and average by type of organization). More benefits packages result in more fragmentation. Also looks at the differences in the content of the benefit package.	Alignment of benefits within AAA to PMJAY packages but not the same number.	Same benefits for all	Same benefits for all	Same benefits for all

AAA Atal Amrit Abhiyan; AAAS Atal Amrit Abhiyan Society; CHD Congenital Heart Disease; CHIS Comprehensive Health Insurance Scheme; CSMBS Civil Servant Medical Benefit Scheme; DKBSSY Dr Khoobchand Baghel Swasthya Sahayata Yojana; KASP Karunya Arogya Suraksha Padhathi; KBF Karunya Benevolent Fund; MVSSY Mukhyamantri Vishesh Swasthya Sahayata Yojana; NRCMS New Rural Cooperative Medical Scheme; RSBY Rashtriya Swasthya Bima Yojana; SNA State Nodal Agency; SSS Social Security Scheme; UEBMI Urban Employee Basic Medical Insurance; URBMI Urban Resident Basic Medical Insurance

Table 8. Typology of defragmentation reforms

Only Rajasthan has introduced largely subsidized premium contributions as an additional revenue source, for persons from higher socio-economic groups, with the rest of states using general taxation to finance their schemes. The universal eligibility criterion of the scheme in Rajasthan has the potential for establishing a single-payer system for most secondary and tertiary care in the state. Similarly, in Chhattisgarh, universal eligibility for a standardized benefits package has been established through general revenue. Chhattisgarh has achieved improved fund utilization of smaller scheme budgets post-merger under a single scheme. States have taken the initiative to explore the scope of defragmenting fully-state financed schemes under which coverage overlaps for specific clinical procedures. Therefore, while these might not entail the defragmentation of large individual financial pools, they reduce duplicative coverage, ease of beneficiary access, ease of scheme administration, and strengthening of strategic purchasing. The reforms in India, therefore, provide an initial set of guidance to countries where a major proportion of health financing is contributed by states (decentralized). Central initiatives like PMJAY in India provide financial impetus, however, their major role lies in the provision of technical guidance, the establishment of nationwide standards, the provision of tools, and leadership in guiding large-scale reforms. States are therefore incentivized through a spirit of cooperative federalism to keep up with the Centre, and each other, in pursuing these large financing reforms.

Conclusion

Fragmentation is a policy matter that is fraught with many issues that often present challenges to efforts to defragment the system. It is a challenge that is rife in many countries in the world due to geopolitical, economic, and in some cases social factors outside of the control of health system actors. Nevertheless, it does present significant challenges for meaningful progress toward UHC goals and objectives.

This review has sought to answer several questions in the policy space regarding the fragmentation of publicly subsidized health insurance (PSHI) and the means to discuss it. Using the growing body of evidence and experiences in different contexts, we have synthesized evidence of the different policy measures that countries have used to address fragmentation. We have also summarized the evidence on the impact of defragmentation efforts and have highlighted possible factors that may constrain or facilitate the defragmentation efforts in a country. The result was a typology of fragmentation efforts and a framework that can ultimately be used to describe, evaluate, and guide defragmentation efforts. The guidance on such efforts is the subject of a second volume that has been produced as an output of this work. The guidebook developed recognizes that defragmentation efforts are context-specific and seeks to highlight the functions and systems that must be considered in the defragmentation and/or evaluation process as well as the processes that can inform defragmentation efforts.

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Annexure I: Pre- and post-defragmentation reforms of state schemes

Kerala

Functions / schemes	Pre-defragmentation			Post-defragmentation
	Rashtriya Swasthya Bima Yojana (RSBY)	Comprehensive Health Insurance Scheme (CHIS) and CHIS Plus	Karunya Benevolent Fund (KBF)	Karunya Arogya Suraksha Padhathi (KASP) - Pradhan Mantri Jan Arogya Yojana Scheme (PM-JAY) - KASP PM-JAY + KBF
Revenue source	Central and state government funds in the ratio 60:40	Fully funded by state government	Innovative revenue source – funds generated through state Lottery Department	Central and state government funds in the ratio 60:40 for SECC families, fully state-funded for the rest KBF scheme funds are generated through State Lottery Department
Eligibility	Unorganized sector workers and their family members listed in the district BPL families list	Members of selected occupational groups represented by welfare boards	Persons not eligible under RSBY or CHIS/CHIS Plus with an annual household income of less than INR 300 000	RSBY beneficiaries + CHIS beneficiaries + SECC beneficiaries + KBF beneficiaries
Benefits – maximum financial cover	INR 30 000 per family per year	Initially, INR 30 000 per family per year and later increased to INR 100 000 per family per year under CHIS Plus	INR 200 000 for tertiary care and INR 300 000 for kidney ailments, per beneficiary – one-time payment	INR 500 000 per family per year KBF beneficiaries who are not eligible under KASP – same as before
Benefits – benefit packages for hospitalization and selected daycare procedures	Initially, 725 procedures increased to 1153 procedures	Initially, 725 procedures increased to 1153 procedures for CHIS Number for CHIS Plus is not available	318 procedures	1677 packages including 81 state-specific packages
Benefits – additional	None	None	None	None

Provider empanelment	Defined criteria for RSBY, adopted for CHIS/CHIS Plus, manual empanelment process carried out by the insurance company For CHIS Plus only tertiary government facilities were empanelled	Criteria defined by the state committee, manual empanelment process	NHA defined criteria and checklist. Online application process is followed by an inspection by the district team and approval by the state empanelment committee
Provider payment method	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses[#]
Claims management	Single system used for claim processing through RSBY portal	Multistep approval process involving district-level committee and Finance Minister approval	Entire process is carried out through a single Transaction Management System

#Package costs cover a whole range of additional costs associated with the treatment. For further details refer to https://nha.gov.in/img/resources/HBP-2.2-manual.pdf; BPL Below Poverty Line' NHA – National Health Authority; SECC Socio-Economic and Caste Census

Chhattisgarh

Functions / schemes	Pre-defragmentation							Post-defragmentation		
	Sanjeevani Sahayata Kosh (SSK)	**Chief Minister's Child Heart Protection Scheme (CMCHPS)**	**Chief Minister Cochlear Implant Scheme (CMCIS)**	**Rashtriya Bal Swasthya Karyakam (RBSK) / Chirayu**	**Rashtiya Swasthya Bima Yojana (RSBY)**	**Mukhyamantri Swasthya Bima Yojana (MSBY)***	**Pradhan Mantri Jan Arogya Yojana (PMJAY) - MSBY**	**Dr. Khoobchand Baghel Swasthya Sahayata Yojana (DKBSSY)**	**Mukhyamantri Vishesh Swasthya Sahayta Yojana (MVSSY)**	**RBSK**
Revenue source	Fully funded by state government	Fully funded by state government	Fully funded by state government	Funded through NHM funds routed through SNA	Central and state government funds in the ratio of 60:40 for RSBY families	Fully state funded by state government	Central and state government funds in the ratio 60:40 for SECC families + RSBY families, fully state-funded for the rest	Central and state government funds in the ratio 60:40 for SECC families, fully state-funded for the rest	Fully funded by state government	Same as before
Eligibility	All BPL families + APL individuals on the recommendation of Chief Minister	All children 0-15 years from BPL families	All children 0-7 years from BPL families	Babies – birth to six weeks + pre-school children in rural areas and urban slums + children studying in 1st to 12th standards of government or aided schools	All BPL families, MNREGA families, and unorganized sector worker families	All active ration card holder families in the state excluding BPL families who were covered under RSBY	All active ration card holder families in the state PMJAY - Households belonging to deprivation criteria under Socio-Economic Caste Census (SECC, 2011) + RSBY families not covered under SECC	All active ration card holder families in the state	AAY and PHH ration card holder families + others as an exception under Chief Minister's authority	Same as before

Functions / schemes	Pre-defragmentation							Post-defragmentation		
	Sanjeevani Sahayata Kosh (SSK)	**Chief Minister's Child Heart Protection Scheme (CMCHPS)**	**Chief Minister Cochlear Implant Scheme (CMCIS)**	**Rashtriya Bal Swasthya Karyakam (RBSK) / Chirayu**	**Rashtiya Swasthya Bima Yojana (RSBY)**	**Mukhyamantri Swasthya Bima Yojana (MSBY)***	**Pradhan Mantri Jan Arogya Yojana (PMJAY) - MSBY**	**Dr. Khoobchand Baghel Swasthya Sahayata Yojana (DKBSSY)**	**Mukhyamantri Vishesh Swasthya Sahayta Yojana (MVSSY)**	**RBSK**
Beneficiary identification and enrolment	Application-based – needs approval at multiple levels – committee + Health Minister's Office No enrolment process	Application-based – needs approval from the medical college committee No enrolment process	Application-based – needs approval from the medical college committee No enrolment process	Identification through the RBSK screening team and referral to empanelled hospital No enrolment process	Entire enrolment process was done by IC, based on the list of BPL beneficiaries provided by SNA		Entire process shifted to a single Beneficiary Identification System after PMJAY launch	Single system to identify and enrol beneficiaries (Beneficiary Identification System) available at empanelled hospitals and designated kiosks	Application-based – needs approval from SNA and DHS No separate enrolment process for MVSSY	Same as before
Benefits – maximum financial cover	INR 300 000 per beneficiary – onetime payment	INR 150 000 per beneficiary – onetime payment	INR 570 000 for BPL families INR 370 000 for APL families – onetime payment	INR 600 000 per beneficiary – onetime payment	Initially, INR 30 000 per family per year increased to INR 50 000 per family per year		PMJAY SECC + RSBY category – INR 500 000 per family per year MSBY APL families - INR 50 000 per family per year	INR 500 000 per family per year for SECC, AAY, or PHH ration card holder families INR 50 000 for others	For packages covered under DKBSSY – additional coverage up to INR 2 000 000 only after the DKBSSY maximum cover is exhausted For packages not covered under DKBSSY - INR 2 000 000 per beneficiary	Same as before

Functions / schemes	Pre-defragmentation							Post-defragmentation		
	Sanjeevani Sahayata Kosh (SSK)	**Chief Minister's Child Heart Protection Scheme (CMCHPS)**	**Chief Minister Cochlear Implant Scheme (CMCIS)**	**Rashtriya Bal Swasthya Karyakam (RBSK) / Chirayu**	**Rashtiya Swasthya Bima Yojana (RSBY)**	**Mukhyamantri Swasthya Bima Yojana (MSBY)***	**Pradhan Mantri Jan Arogya Yojana (PMJAY) - MSBY**	**Dr. Khoobchand Baghel Swasthya Sahayata Yojana (DKBSSY)**	**Mukhyamantri Vishesh Swasthya Sahayta Yojana (MVSSY)**	**RBSK**
Benefits – benefit packages	30 listed diseases/ procedures	7 cardiac packages	1 ENT procedure – cochlear implant	Treatments covering 32 common conditions including defects at birth, diseases, deficiencies, and development delays	Initially, 771 procedures increased to 800 procedures		1571 procedures	1673 procedures	11 high-end procedures/ diseases not covered under DKBSSY	Same as before
Benefits - additional	Transportation costs (actual with a maximum limit of INR 100 per visit) within an overall limit of INR 1000	None	None	None	None	None	None	None	None	None

Functions / schemes	Pre-defragmentation							Post-defragmentation		
	Sanjeevani Sahayata Kosh (SSK)	**Chief Minister's Child Heart Protection Scheme (CMCHPS)**	**Chief Minister Cochlear Implant Scheme (CMCIS)**	**Rashtriya Bal Swasthya Karyakam (RBSK) / Chirayu**	**Rashtiya Swasthya Bima Yojana (RSBY)**	**Mukhyamantri Swasthya Bima Yojana (MSBY)***	**Pradhan Mantri Jan Arogya Yojana (PMJAY) - MSBY**	**Dr. Khoobchand Baghel Swasthya Sahayata Yojana (DKBSSY)**	**Mukhyamantri Vishesh Swasthya Sahayta Yojana (MVSSY)**	**RBSK**
Provider empanelment	No well-defined criteria for empanelment. Based on the application by the hospital and inspection by the Directorate of Medical Education. The hospital has to separately empanel itself for each scheme.				State-defined criteria and checklist. Empanelment process carried out by IC		NHA defined criteria and checklist. Online application process followed by an inspection by the district team and approval by the state empanelment committee	Hospital empanelment guidelines for DKBSSY followed – based on PMJAY guidelines with some state-specific modifications Online process same as in PMJAY	No separate empanelment Beneficiaries can avail of services in government hospitals and CGHS hospitals	No separate empanelment Beneficiaries can avail services in government hospitals and hospitals empanelled under DKBSSY
Provider payment methods	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses**				Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses#		Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses#	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses**#		

Functions / schemes	Pre-defragmentation							Post-defragmentation		
	Sanjeevani Sahayata Kosh (SSK)	**Chief Minister's Child Heart Protection Scheme (CMCHPS)**	**Chief Minister Cochlear Implant Scheme (CMCIS)**	**Rashtriya Bal Swasthya Karyakam (RBSK) / Chirayu**	**Rashtiya Swasthya Bima Yojana (RSBY)**	**Mukhyamantri Swasthya Bima Yojana (MSBY)***	**Pradhan Mantri Jan Arogya Yojana (PMJAY) - MSBY**	**Dr. Khoobchand Baghel Swasthya Sahayata Yojana (DKBSSY)**	**Mukhyamantri Vishesh Swasthya Sahayta Yojana (MVSSY)**	**RBSK**
Claim management	Involvement of SNA, TPA, and Health Minister's Office at different levels during claim processing on an independent web portal	Involvement of SNA, TPA, and an expert committee from medical college at different levels during claim processing on an independent web portal	Involvement of SNA, TPA, and an expert committee from medical college at different levels during claim processing on an independent web portal	Involvement of SNA, TPA, and an RBSK expert committee at different levels during claim processing on an independent web portal	Claim processing through an online platform		Entire process shifted to a single Transaction Management System after PMJAY launch	Entire process is carried out through a single Transaction Management System		

**RSBY and MSBY had similar processes and were both defragmented into PMJAY when it was launched in 2018*

***Package rates varied across schemes for similar procedures and needed rationalization at the time of defragmentation*

#Package costs cover a whole range of additional costs associated with the treatment. For further details refer to https://nha.gov.in/img/resources/HBP-2.2-manual.pdf

AAY Antyodaya Anna Yojana; APL Above Poverty Line; BPL Below Poverty Line; CGHS Central Government Health Scheme; DHS Directorate of Health Services; PHH Priority Household; SNA State Nodal Agency; TPA Third Party Administrator; IC Insurance Company

Rajasthan

Functions / schemes	Pre-defragmentation	Post-defragmentation
	Bhamashah Swaasthya Bima Yojana (BSBY) - Mahatma Gandhi Rajasthan Swasthya Bima Yojana (MGRSBY)*	Mukhyamantri Chiranjivi Swasthya Bima Yojna
Revenue source	Central and state government funds in the ratio 60:40 for SECC families, fully state-funded for the rest	Central and state government funds in the ratio 60:40 for SECC families, fully state-funded for the rest
Eligibility	Families covered under NFSA (AAY + PHH) categories + Households belonging to deprivation criteria under Socio-Economic Caste Census (SECC, 2011)	All active ration card holder families of the state are automatically eligible and state-sponsored Families not covered under state-sponsored category can enroll in the scheme after payment of INR 850 per family per year as a subsidized premium
Beneficiary identification and enrolment	Beneficiary registration using an in-house system for beneficiary identification and enrolment – database managed by the Department of Statistics	Unique Jan Aadhaar card and corresponding database used for beneficiary identification and enrolment on a single system
Benefits – maximum financial cover	INR 330 000 split as INR 30 000 (for general illnesses) and INR 300 000 (for critical illnesses) per family per year	Initially, INR 500 000 was split as INR 50 000 for general illness and INR 450 000 for serious illness In FY 2021-22, maximum coverage was raised to INR 1 000 000 per family per annum
Benefits – benefit packages	1401 procedures	1572 procedures

Benefits – additional	In cases of cardiac illness and poly-trauma travelling charges covered – INR 100 per discharge up to a maximum of INR 500 per family per year	None
Provider empanelment	State-defined criteria for empanelment Process through online application on the BSBY portal followed by inspection and approval by the insurance company Hospitals empaneled for BSBY deemed empaneled for MGRSBY	Criteria and checklist defined by NHA adopted with modifications. Online application process followed by a review of the district empanelment committee, approval by the state empanelment committee
Provider payment methods	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses#	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses#
Claim management	In-house system for claims processing	In-house system for claims processing Claims up to INR 500 000 paid by the insurance company, claims above INR 500 000 handled by the insurance company but paid by SHA

**BSBY scheme was renamed MGRSBY in 2019 and retained all the same features as before*
#Package costs cover a whole range of additional costs associated with the treatment. For further details refer to https://nha.gov.in/img/resources/HBP-2.2-manual.pdf
AAY Antyodaya Anna Yojana; NFSA National Food Security Act; PHH – Priority Household

Assam

Functions / schemes	Pre-defragmentation					Post-defragmentation		
	Congenital Heart Disease (CHD) scheme	Assam Arogya Nidhi (AAN)	Snehasparsh Scheme	Atal Amrit Abhiyan (AAA)	Pradhan Mantri Jan Arogya Yojana (PMJAY)	Congenital Heart Disease (CHD) scheme	Atal Amrit Abhi-yan (AAA)	Pradhan Mantri Jan Arogya Yo-jana (PMJAY)
Revenue source	Funded by NHM, Assam	Funded by NHM, Assam	Funded by NHM, Assam	Funded by NHM, Assam	Central and state funds in the ratio of 90:10 for the SECC families	Treatment costs are covered by AAA funds; the rest are funded by NHM Assam	Same as before	Same as before
Eligibility	All children below 18 years of age with a family income less than INR 600 000 who are born with de-fects in the heart	All families with annual income up to INR 500 000 Applications can only be ac-cepted if a beneficiary is not eligible for AAA or PMJAY or the treatment package is not covered under both	All Children below 14 years of age with family income less than INR 500 000 per annum.	BPL families (annual income of less than INR 120 000) and select APL households (annual income between INR 120 000 and INR 500 000)	Deprived cate-gory family as per SECC, 2011	Same as before	Same as before	Same as before
Beneficiary identifica-tion and enrolment	No enrolment function Patients identified through screening camps	No enrolment function Applications reviewed by a screening committee	No enrolment function Applications reviewed by Snehasparsh Committee	Identified through biometric enables smart cards issued at kiosks set up at the district level	Beneficiary identification system for identifying and enrolling beneficiaries	Same as before	Same as before	Same as before
Benefits – maximum financial cover	No maximum cover is specified for the beneficiary Each package has a fixed price	INR 300 000 per beneficiary	No maximum cover is specified for the beneficia-ry Maximum limit for each proce-dure/disease is listed	INR 200 000 per individual beneficiary per year	INR 500 000 per beneficiary family per year	No maximum cover is specified for the ben-eficiary. A fixed price for each package aligned with package rates under AAA	Same as before	Same as before

Functions / schemes	Pre-defragmentation					Post-defragmentation		
	Congenital Heart Disease (CHD) scheme	Assam Arogya Nidhi (AAN)	Snehasparsh Scheme	Atal Amrit Abhiyan (AAA)	Pradhan Mantri Jan Arogya Yojana (PMJAY)	Congenital Heart Disease (CHD) scheme	Atal Amrit Abhiyan (AAA)	Pradhan Mantri Jan Arogya Yojana (PMJAY)
Benefits – benefit packages	45 surgical packages	Any serious disease requiring surgery/implants/procedures like Bone Marrow Transplant (BMT) or any other critical disease including serious accident cases	10 procedures/ diseases	436 procedures under six specialties + additional 256 procedures under 6 Vistarit category	1578 procedures#	Same as before	737 procedures (revised to align with PMJAY packages)	1394 procedures#
Benefits – additional	Entire expenses for screening, investigations, and to and fro airfare between Guwahati to other destinations for the patient and one Parent/ guardian, accommodation facility for the guardian during the hospitalization period of the child	Not any	Travel and stay of patient and one guardian in case the patient is referred to a hospital outside the state	Local transport- INR 300 per hospital visit with a yearly cap of INR 3000 Airfare/Train fare for patient + 1 attendant for treatment outside the state – max INR 30 000 per annum Daily allowance for treatment outside the State of INR 1000/day up to INR 10 000 (All above-mentioned are deducted from 200 000) All diagnostic tests done before 24 hours of admission in the empaneled hospital are covered	Same as AAA	Same as before	Same as before	Same as before

Functions / schemes	Pre-defragmentation					Post-defragmentation		
	Congenital Heart Disease (CHD) scheme	Assam Arogya Nidhi (AAN)	Snehasparsh Scheme	Atal Amrit Abhiyan (AAA)	Pradhan Mantri Jan Arogya Yojana (PMJAY)	Congenital Heart Disease (CHD) scheme	Atal Amrit Abhi-yan (AAA)	Pradhan Mantri Jan Arogya Yo-jana (PMJAY)
Provider empanel-ment	No specific crite-ria. Designated Cardiac centers in State and outside State: Narayan Hrudayalaya, Bangalore, and subsidiaries in Kolkata, Guwaha-ti, and Mumbai	All Govt hospitals including medical colleges/ tertiary health care facilities, all reputed private hospitals registered under the Clinical Establishment Act	No specific criteria. Medical college hospitals and other hospitals inside the state with referral to suitable Health Institutions outside the State as recommended by Snehasparsh Committee	State-defined criteria for empanelment Online application on insurance company portal followed by inspection and approval by the same	Defined criteria and checklist. Online appli-cation process is followed by an inspec-tion by the district team and approval by the state empanelment committee	Same as before	PMJAY criteria and process adopt-ed	Same as before
Provider payment methods	Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses					Case-based bundled payment inclusive of certain pre- and post-hospitalization expenses		
Claim man-agement	Claim submit-ted manually to CHD cell in NHM, reviewed and approved by the committee, payment made to the contracted hospital	Application reviewed by committee; payment is done to the patient as reim-bursement of expenses	Application reviewed by committee; payment is done to the patient as reimbursement of expenses	Online claim manage-ment system, managed by an Implementation Support Agency (ISA)	Online claim management system, managed by an Implemen-tation Support Agency (ISA)	Treatment package cost claim submitted and processed on TMS, paid by AAAS. Claim for the rest of the expenditure submitted to NHM, processed manually, and paid by NHM.	Online claim man-age-ment system man-aged by AAAS.	Online claim management system managed by AAAS.

#Package costs cover a whole range of additional costs associated with the treatment. For further details refer to https://nha.gov.in/img/resources/HBP-2.2-manual.pdf
NHM National Health Mission; SECC Socio-Economic Caste Census 2011; BPL Below Poverty Line; APL Above Poverty Line; TMS Transaction Management

Annexure II: Levels of fragmentation in countries

	South Korea	Turkey	Indonesia	Thailand	China	Moldova
Pre-defragmentation status - Level of fragmentation[a]						
Schemes	>350 schemes + Medical Aid program for poor	Five schemes	Four schemes and commercial insurance through MCOs	Four schemes	Three schemes	No insurance scheme
Organizations	**High** >350 health insurance societies	**Medium** Three Ministries involved	**High** Management at the regional/provincial level	**Medium** 3 Ministries involved	**High** Management at the district/municipal level	**High** Management of health resources at rayon (district)/ Judet level
Risk pooling	**High** > 350 health insurance pools	**Medium** Five separate pools	**High** >300 pools	**Medium** Four pools	**High** >3000 pools	**High** >50 pools
Eligibility	**Medium** Eligibility based on place of work and residence	**Medium** Eligibility based on the occupational type and poverty level	**Medium** Eligibility based on employment and poverty level	**Medium** Eligibility based on employment and poverty level	**Medium** Eligibility based on place of work and residence	**Low** State guarantee of free health care for all
Benefits	**Low** Uniform benefits across all schemes	**Medium** Benefits differed across schemes	**High** Benefits differed across schemes and provinces	**Medium** Benefits differed across schemes	**High** Benefits differed across schemes and districts	**Low** State guarantee of free health care for all

	South Korea	Turkey	Indonesia	Thailand	China	Moldova
Premiums	**Medium-High** Different contribution levels with a mix of payroll taxes and government contributions	**Medium-High** Different contribution levels with a mix of payroll taxes and government contributions	**Medium-High** Different contribution levels with a mix of payroll taxes and government contributions	**Medium-High** Different contribution levels with a mix of payroll taxes and government contributions	**Medium-High** Different contribution levels with a mix of payroll taxes and government contributions	Not applicable
Provider empanelment	**Low** No selective empanelment	**Medium** A different set of contracted providers across schemes	*	*	*	*
Provider payment methods	**Low** Largely uniform across schemes A mix of fee-for-service, DRG-based prospective payments, and per-diem payment	**Medium** Differed across schemes A mix of fee-for-service and global budgets	**Medium** Differed across schemes A mix of capitation and negotiated fee schedule	*	*	*
Claim management	**Low** Single agency (Health Insurance and Review Assessment (HIRA)) for claim review	**High** Each scheme has its own claim management process	*	*	*	*
Post-defragmentation status - Level of fragmentation[a]						

	South Korea	Turkey	Indonesia	Thailand	China	Moldova
Schemes	One scheme + Medical Aid Programme for poor	One scheme	One scheme	Three schemes	Two or three schemes depending on the merger at the district level	One scheme
Organizations	**Low** National Health Insurance Service (NHIS) for premium collection, fund management, and reimbursement to providers and Health Insurance Review and Assessment (HIRA) Service for claim review, assessment of the appropriateness of health care, technical support to benefit packages and the design of the provider payment system	**Low** Social Security Institution for revenue collection, pooling, and purchasing	**Low** Badan Penyelenggara Jaminan Sosial – Kesehatan (BPJS – K) for collecting premiums and paying providers	**Medium** Three separate agencies: National Health Security Office (NHSO) for Universal Coverage Scheme (UCS), the Comptroller General Department (CGD) of the Ministry of Finance for Civil Servant Medical Benefit Scheme (CSMBS), and the Social Security Office (SSO) of the Ministry of Labour for Social Health Insurance (SHI)	**High** Scheme administrative agency varies by district	**Low** National Health Insurance Company (NHIC) for pooling and purchasing
Risk pooling	**Low** Single pool	**Low** Single pool	**Low** Single pool	**Medium** Separate pools for each scheme	**High** District level pools	**Low** Single pool

	South Korea	Turkey	Indonesia	Thailand	China	Moldova
Eligibility	**Low** Universal	**Low** Universal	**Low** Universal	**Low** Universal	**Low** Universal	**Low** Universal
Benefits	**Low** Uniform benefits	**Low** Uniform benefits	**Low** Uniform benefits	**Medium** Benefits differ across schemes	**High** Benefits differ across districts	**Medium** Standard benefits package for all insured, different from uninsured
Premiums	**Low-Medium** Different contribution levels with mix of payroll taxes and government contributions	**Low-Medium** Different contribution levels with mix of payroll taxes and government contributions	**Low-Medium** Different contribution levels with mix of payroll taxes and government contributions	**Low-Medium** Different contribution levels with mix of payroll taxes and government contributions	**Low-Medium** Different contribution levels with mix of payroll taxes and government contributions	**Low-Medium** Different contribution levels with mix of payroll taxes and government contributions
Provider empanelment	**Low** No selective empanelment	**Medium** No selective empanelment for public hospitals, but selective empanelment for private hospitals	**Medium** No selective empanelment for public hospitals, but selective empanelment for private hospitals	**Medium** No selective empanelment for public hospitals, but selective empanelment for private hospitals	**Medium** No selective empanelment for public hospitals, but selective empanelment for private hospitals	**Medium** No selective empanelment for public hospitals, but selective empanelment for private hospitals

	South Korea	Turkey	Indonesia	Thailand	China	Moldova
Provider payment methods	**Low** Mix of fee-for-service, DRG based prospective payments and per-diem payments	**Low** Mix of fee-for-service, DRGs (limited), global budgets and capitation	**Low** Mix of capitation and DRGs	**Medium** Differed across schemes Mix of fee-for-service, capitation, global budget and DRGs	*	**Low** Mix of fee-for-service, capitation, global budget and payments per case/visit
Claim management	**Low** Single agency (Health Insurance and Review Assessment (HIRA)) for claim review	*	*	*	*	**Low** NHIC responsible for case validation MHSP validates inpatient cases under national programmes

[a]*Level of fragmentation categorized as low, medium, high. (more the numbers of organizations, pools and categories= more fragmentation) Adapted by authors from Bossert et al. 2014. Comparative review of health system defragmentation in selected countries in Latin America. IDB Technical Note; 585.*

**Relevant data could not be delineated from secondary literature sources*

MHSP Ministry of Centre of Public Health Management

DRG Diagnosis Related Groups

Annexure III: Template for extraction of details of schemes before and after defragmentation reforms for each state

Details		**Scheme before defragmentation** *(list separate columns for each functional vertical scheme)*	**Scheme after defragmentation** *(list separate columns for each defragmented scheme)*
Duration of implementation	Launch date/year		
Ownership	Parent ministry		
Governance	Supporting laws and regulations		
	Oversight agency/ agencies, roles and relationships		
	Budgetary arrangements for scheme financing- sources, amounts		
Institutional arrangements and capacity	Nodal implementing agency		
	Human resources appointed – roles/designations with qualification-numbers; full time+ contractual at state level implementation		
	Third-party administrator / public or private Insurance company if involved		
	Number of human resources appointed at state level implementation – Support agencies		
	Contract terms with agencies- roles and responsibilities, payment, KPIs		
	Institutional arrangements at district level- public agency, support agencies		
	Capacity building- specific expertise, training of staff- state		
	Capacity building- specific expertise, training of staff- district		

Eligible population	Eligibility criteria of the scheme (means testing criteria, occupational groups) / Eligible groups		
	Number of beneficiaries enrolled; number of families enrolled		
	Proportion of eligible population enrolled in the scheme		
	Proportion of total population covered in the scheme		
Beneficiary management	Agency in-charge		
	Measures for beneficiary identification		
	Measures for beneficiary enrolment		
	Documents required for enrolment in the scheme		
	Measures for beneficiary awareness		
Benefits packages	Agency responsible for developing/ approving		
	Maximum financial cover		
	Number of benefit packages provided / Number of surgical/medical processes covered		
	Number of procedures covered		
	Expenses covered – OPD/Daycare treatment/Hospitalization expenses/ Ambulation/Follow-up care/Others		
Provider empanelment criteria and network	Agency in-charge		
	Criteria for empanelment of hospitals		
	Process of empanelment		
	Number of public/private/trust hospitals empaneled		
	Performance monitoring system for empaneled hospitals, for example, incentives/medical audit system (who is responsible/how frequent)		
	Guidelines on accreditation		
	Number of hospitals accredited by type of accreditation		

Claim management	Agency in-charge		
	Process of treatment preauthorization		
	Process of claims adjudication		
	Total claims generated; % rejected; % paid		
	Total claim amount reimbursed		
	Turnaround time for claim reimbursements		
Fraud Management	Agency in-charge		
	Mechanisms adopted for fraud detection and management		
	Numbers of medical audits, claims audits , fraud triggers, % investigated, % determined as fraud		
Provider payment	Payment methods		
	Payment rates- How were the provider payment rates decided? Has there been any change after defragmentation?		
Revenue sources other than tax financing and pooling	Premium/ other pre-payments		
	OOP costs- user charges-(co-pays, etc.)		
	Pooling agency		
Data information systems	Purchasing functions supported through health information management systems		
	Functions for which HMIS under- development/ no HMIS available		
Grievance Redressal	Agency in-charge		
	Processes for Grievance Redressal		
	Numbers of grievances filed, % actioned		
Monitoring and Evaluation of scheme	Agency in charge		
	Mechanisms for M&E		

Annexure IV: Interview guide – key policy maker and health system leader

A. Respondent background information and role

We would like to begin by understanding your current role and your role relating to the earlier existing health insurance schemes and defragmentation process

1. Respondent name: _____
2. Designation: _____
3. What is your current role with respect to health insurance schemes in the state?
4. For how long have you been working in the current role?
5. In what capacity were you involved with the defragmentation of the earlier existing schemes? (Elucidate the key roles and responsibilities of the respondent before, during and after defragmentation)

B. Understanding the backdrop of defragmentation, reasons for defragmentation

We would like to understand the factors that led to the defragmentation of the earlier existing health insurance schemes

1. How would you describe the performance of the earlier state health insurance schemes in your state?
2. Were the schemes sufficiently targeted at the deserving population, that is, those who needed such benefits? Were they sufficiently universal in intent?
3. Were all eligible beneficiaries being reached?
4. Were the schemes providing sufficient financial protection to the beneficiaries?
5. Was there an adequate benefits package being provided to the eligible population for each scheme?
6. What was the relationship with empanelled providers? Were they satisfied with the earlier schemes?
7. How was the state managing all the schemes in terms of administration of each? Were the individual organizations able to manage scheme operations efficiently?
8. What is your perception about the administrative costs associated with the previous schemes? Do you think it that was an efficient use of resources?
9. What according to you were the gaps in pre-existing state health insurance schemes structures in terms of achieving universal health coverage?
10. What other limitations are you aware of with respect to the earlier arrangements?
11. What was the felt need for defragmentation of health insurance schemes? What were the reasons due to which defragmentation was considered?
12. Was there any evidence available to support the need for defragmentation?
13. Do you think that the need for defragmentation was justified?

C. Understanding the process of defragmentation – steps involved, facilitators and barriers, major challenges

We would now like to understand the defragmentation process, the steps involved in decision making, the enablers and barriers, persons involved, etc.

1. Who were the persons involved in the discussions and in designing the defragmentation? What was the thought process?
2. What objectives were intended to be achieved through the defragmentation of schemes?
3. Was it intended to be complete defragmentation, or in phases? What phases were envisaged?

4. How was the blueprint developed? Were any situational analysis/pilot studies/ stakeholder consultations conducted?
5. How do you perceive the political will to bring about the defragmentation of the schemes? When was the political dialogue initiated towards the defragmentation reform?
6. How did the political decisions affect the process? Were there any barriers?
7. What were the changes made in preexisting insurance schemes?
8. What were the steps taken towards the defragmentation?
9. Was there support for defragmentation from those administrating/operating the earlier schemes? What was their opinion on defragmentation?
10. Were any regulatory interventions necessary? Were these undertaken?
11. Was there someone in-charge of leading the defragmentation process? Was a team available? What were their roles and capacities?
12. Was there support from healthcare providers for defragmentation? What was their opinion on defragmentation?
13. Were there any efforts to create awareness among the population? What was the effect of such efforts?
14. Were there any resistances from stakeholders? (Beneficiaries, providers, process owners, TPA/insurers)
15. How did you deal with resistance?
16. What resources were made available to facilitate the implementation of defragmentation?
17. What were the challenges experienced in implementing the defragmentation?
    - probe: lack of robust data, unavailability of clear guiding documents for the process leading to confusion, unavailability of the expertise and other resources for defragmentation, confusion due to lack of uniformity in the process

D. Design features and strategic purchasing processes adopted in defragmented scheme

We would like to understand the various design features and processes being adopted in the defragmented schemes, and the transition from earlier processes to new ones.

1. What is the financing mechanism for the defragmented scheme? (Probe all funding sources, line ministries, premiums, etc.)? Were new funding sources identified? Were there sufficient funds available?
2. How have the institutional arrangements changed post-defragmentation? (Probe- trust/insurance/mixed mode; organogram, human resource deployment, training, capacity building)
3. How was the eligible beneficiary data collected/ collated?
4. What is the process of identification and enrolment of beneficiaries? Did you start afresh or use existing data bases?
5. How was the total benefit package decided?
6. How are providers reimbursed for all services covered under the benefits package? (Probe payment method, extent of bundling)
7. Are there any separate mechanisms for reimbursements to beneficiaries for transport, food, etc.?
8. What was the process of establishing payment rates? Are there any supporting exercises on costing, etc., being carried out to inform these processes?
9. How are the providers empaneled now? Is there any weightage give to accreditation of hospitals?
10. How are all claims processed and reimbursed?

11. What mechanisms are available for audits and fraud vigilance w.r.t. claims?
12. What mechanisms are available for grievance redressal for beneficiaries, and other scheme stakeholders (empanelled providers)
13. What are the available information management systems used post-defragmentation? How were they developed? (Probe- what functions are manually conducted versus through an MIS, how systems were defragmented, inter-operability between systems)
14. What are the available mechanisms for monitoring and evaluation of the defragmented scheme?

E. Impact and of defragmentation and reflections

We would like to understand your impressions of the impact of defragmentation and reflections on what went well and what could have been done differently.

1. What has been the greatest impact of defragmentation, in your opinion?
2. Do you think the efficiency of scheme administration and management has changed in any way? What are the persisting challenges?
3. What has been the impact, with respect to the following?
   a. Population coverage
      - How has this changed and why? (Probe ease/challenges of beneficiary identification; whether higher coverage has been achieved; certain groups have been better reached)
      - What are the persisting challenges?

   b. Equitable access and utilization of services -
      - What has been the impact upon the access of the services and the health care utilization, after defragmentation?
      - Have specific groups of the population benefitted from the defragmentation? Has it improved access for certain groups?
      - What specific factors have enabled this? (change in benefit packages, inclusion/ exclusion of services covered, change in the number of empaneled providers, change in the regional distribution of the empaneled providers)
      - What are persisting challenges?

   c. Financial protection
      - What has been the impact on out-of-pocket expenditure for beneficiaries?
      - What has been the change in overall satisfaction of the beneficiaries after defragmentation?

   d. Quality of care
      - Have there been any changes in the quality of care provided/ available under the scheme after defragmentation?
      - Has the defragmentation improved the state's ability to better monitor the performance of network hospitals?

   e. Stakeholder satisfaction
      - Do you think the beneficiaries are more or less satisfied with defragmentation?
      - Are doctors/hospitals satisfied/dissatisfied after defragmentation?

4. Would you have changed anything in the way defragmentation was done? What could have been done differently?

5. What are your key learnings from this process?
6. Is there anything else you would like to share with us about the entire defragmentation reform journey?

Annexure V: Interview guide – empanelled hospitals

Hospital characteristics:

1. Hospital name:
2. Hospital location:
3. Respondent name and designation:
4. Number of beds:
5. Ownership type: Private for-profit / Private not-for-profit / Public
6. Specialties empaneled:
7. Scheme in which currently empaneled:
8. Scheme in which empaneled before defragmentation:

Part A – Experience with the scheme before defragmentation

1. For how long have you been empaneled with the scheme? How many patients did you usually treat under the scheme?
2. What proportion of your total patients were scheme beneficiaries? Does this represent a significant proportion of your revenue?
3. What was the main reason for your hospital to seek empanelment under the scheme?
4. How was your overall experience of being empaneled with the scheme?
5. Did you face any challenge with respect to the scheme?
6. How was your experience with the empanelment process?
7. What is your view about the criteria and process adopted by the scheme for empaneling hospitals?
8. How was your experience with the claim management process? Was it efficient/ smooth?
9. How much time was required to receive your claim payment? Were you satisfied with that?
10. How frequently were the claims rejected? Do you think that the claim rejections were justified?
11. What is your opinion on adequacy of price paid by the scheme?
12. How was the support of nodal office to the empaneled hospital?
13. Did you had sufficient opportunity to raise the grievance and obtain resolution?
14. Do you think that other hospitals could have misused the scheme for their own benefit? In what ways?
15. Do you think that people/beneficiary could have misused the scheme for their personal benefits? In what ways?

Part B – Experience with the defragmented scheme

(Same questions as above)

Part C – Comparison of experiences pre- and post-defragmentation

1. Do you think, that merging the schemes was a good idea? Why?
2. What benefits and disadvantages the defragmentation has brought to your hospital?
3. Your specific suggestion to make the scheme better for patients and hospitals?

Annexure VI: Secondary data list

Section A – Quantitative data

All data required for individual schemes in the state (before defragmentation) and for consolidated scheme – (after defragmentation). This data list includes disaggregated data requirements, however if appropriate aggregated data are available, these may be preferred, where found appropriate and fulfilling requirements.

1. Budgetary allocations and expenditure – year wise allocation and expenditure for all FYs during which scheme was in operation (format attached)

2. Human resource data (format attached)

3. Coverage data
   i. Number of packages covered
   ii. Maximum financial cover
   iii. Expenses that are covered
   iv. Expenses that are not covered

4. Empanelled hospital data before defragmentation for each scheme in the state–
   i. Name, ID and location of the hospital
   ii. Ownership type (Public, Private for-profit, Private not-for profit)
   iii. Rural/Urban location
   iv. Bed strength
   v. Specialties empanelled
   vi. Accredited/non-accredited status
   vii. Claims handled by the hospital (number of claims, claim value)
   viii. Timelines of empanelment (date applied, date empaneled, date of end of empanelment)
   ix. Contact detail of coordinating person from the hospital

5. Claim data (Patient-wise details)
   i. Patient ID
   ii. Patient residential location- rural/urban/district
   iii. Date of admission and date of discharge
   iv. Discharge outcome (normal discharge, death, DAMA)
   v. Hospital admitted, hospital location
   vi. Package booked
   vii. Pre-authorization amount
   viii. Claim amount
   ix. Claim process outcome (paid, rejected, partially paid)
   x. Actual claim paid
   xi. Rejection reason if any
   xii. Query raised
   xiii. Claim processing agency (TPA/Trust, etc.)
   xiv. Date of each step , that is, pre-authorization date, claim application date, claim approval date, etc.

6. Grievances registered by hospitals
    i. Name of hospital
    ii. Texts of grievances registered
    iii. Date of grievance registered
    iv. Details of action taken (if any)

7. Grievances registered by beneficiaries
    i. Texts of grievances registered
    ii. Date of grievance registered
    iii. Details of action taken (if any)

8. Monitoring and Fraud
    i. Number and percentage of claims for which medical audits were conducted
    ii. List of claims where fraud is triggered/suspected
    iii. Suspected claims that were investigated
    iv. Outcome of investigation (fraud confirmed, fraud not confirmed)

9. Beneficiary enrolment data
    i. State population as per official records
    ii. Total eligible beneficiaries
    iii. Number of beneficiaries enrolled
    iv. Following data for each enrolled beneficiary
        a) Gender
        b) Age
        c) District
        d) Date of enrolment
        e) Eligibility criteria that they fulfill.

Section B – Documents for review

1. Guideline/policy document of each scheme before defragmentation
2. Minutes of meetings held for defragmentation agenda
3. Minutes of meeting held with other stakeholders, such as hospital representatives, TPA/ Insurer
4. Guideline/policy document after defragmentation
5. Circulars/notices/orders issued by government with regard to defragmentation
6. Trainings and other capacity building initiatives (format attached)
7. Any white paper or study done by the state on defragmentation work

Annexure VII: All states' schemes

A) Chhattisgarh

Schemes included in integration reforms	Schemes post integration reforms	Other existing schemes planned /unplanned for integration
• Sanjeevani Sahayata Kosh (**SSK**) • Rashtriya Swasthya Bima Yojana / Mukhyamantri Swasthya Bima Yojana - Pradhan Mantri Jan Arogya Yojana (**RSBY/MSBY-PMJAY**) • Chief Minister Child Heart Protection Scheme (**CMCHPS**) • Chief Minister Child Deafness Programme (**CHHS**) • Rashtriya Bal Swasthaya Karkram (**RBSK / Chirayu**)	• Dr. Khoobchand Baghel Swasthya Sahayata Yojana (**DKBSSY**) • Chief Minister's Special Health Assistance Scheme (**MVSSY**) • Rashtriya Bal Swasthaya Karkram (**RBSK / Chirayu**)	• Chhattisgarh Government Employees covered under ***Chhattisgarh Civil Services (Medical Attendance) Rules, 2013***

B) Kerala

Schemes included in integration reforms	Schemes post-integration reforms	Other existing schemes planned /unplanned for integration
• Rashtriya Swasthya Bima Yojana (**RSBY**) • Comprehensive Health Insurance Scheme (**CHIS**) • **CHIS Plus** • Karunya Benevolent Fund (**KBF**)	• Karunya Arogya Suraksha Padhathi - Pradhan Mantri Jan Arogya Yojana (**KASP-PMJAY**)	• ArogyaKiranam (**AK**) • Rashtriya Bal Swasthya Karyakram (**RBSK**) • Janani Shishu Suraksha Karyakaram (**JSSK**) • Thalolam* • Cancer Suraksha* • Sruthitharangam* • **MEDISEP** *(Medical Insurance for State Employees and Pensioners)*

**Thalolam, Cancer Suraksha and Sruthitharangam - Kerala Social Security Mission, Social Justice Department*

C) Rajasthan

Schemes included in integration reforms	Schemes post-integration reforms	Other existing schemes planned /unplanned for integration
• Rashtriya Swasthya Bima Yojana (**RSBY**) ⟶ Bhamashah Swasthya Bima Yojana (**BSBY**) ⟶ Mahatma Gandhi Rajasthan Swasthya Bima Yojana (**MGRSBY**) • Mukhyamantri Jeevan Raksha Kosh	• Mukhya Mantri Chiranjeevi Swasthya Bima Yojana (**MMCSBY**) • Mukhyamantri Jeevan Raksha Kosh	• Rajasthan Government Health Scheme (**RGHS**)* • Rashtriya Bal Swasthya Karyakram (**RBSK**) • Nirogi Rajasthan

**The RGHS scheme in its current form has integrated medical benefits for all state government employees into a single scheme. However, its organization and functional arrangements are independent of other existing schemes.*

D) Assam

Schemes included in integration reforms	Schemes post integration reforms	Other existing schemes planned /unplanned for integration
• Atal Amrit Abhiyan (**AAA**) • Pradhan Mantri Jan Arogya Yojana (**PMJAY**) • Congenital Heart Disease (**CHD**) scheme	• Atal Amrit Abhiyan (**AAA**) & Pradhan Mantri Jan Arogya Yojana (**PMJAY**) – *further integration in process* • Congenital Heart Disease (**CHD**) – partly *integrated with AAA*	• Assam Arogya Nidhi (**AAN**) • **Snehsparsh** • Rashtriya Bal Swasthya Karyakram (**RBSK**) • Assam Government Employees covered under ***Assam Medical Attendance Rules, 2008***

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Notes

Defragmented and uncoordinated publicly subsidized health insurance (PSHI) schemes remain a pervasive issue undermining progress toward Universal Health Coverage in many countries, especially emerging and low-income economies. This document provides a review of efforts undertaken in four Indian states and several countries on the defragmentation of their health schemes. The document also provides a conceptual framework and typology for the classification of various types of fragmentation encountered.